MacWEEK

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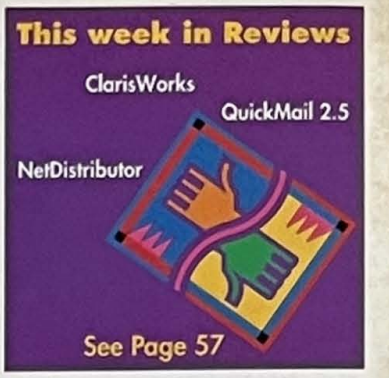


Ports at home, on road for docking PowerBook

By Raines Cohen

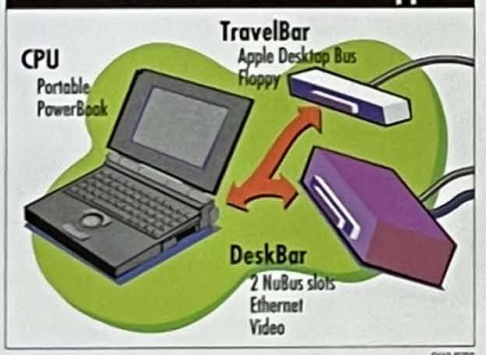
Cupertino, Calif. — PowerBook users: Is a dock in your future? User demand for more-powerful and more-portable notebooks is driving Apple to follow the lead of other manufacturers and build systems capable of attaching to desktop-based expansion units.

As previously reported (see MacWEEK, Oct. 22), the company is planning to introduce next fall a fourth PowerBook, with a 25-MHz 68030 processor like the 170's, but with a gray-scale display. Apple will be able to make the new notebook much lighter (about 4 pounds), smaller and more affordable than the 170 by offloading some of its I/O functions into modules that connect, or dock, to the portable unit.

For instance, sources said, the new PowerBook won't include a desktop bus or floppy drive or port. Instead, a portion of the valuable rear-panel real estate on the tiny device will be dedicated to a CPU-

See Docking, Page 120

Next PowerBook will be barhopper



CHAD KUBO

Symantec to fold SUM technology into Norton 2.0

By Henry Norr and Andrew Gore

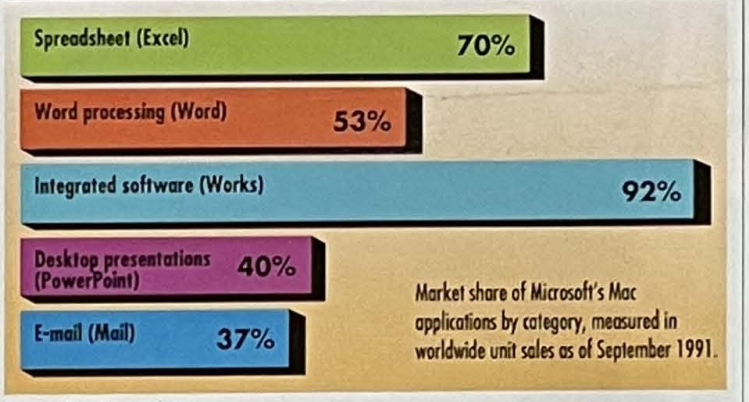
Cupertino, Calif. — Symantec Corp. is preparing a new data-recovery utility package designed to combine the strengths of its two entries in the category. But after more than a year of development, the final feature list and release plans remain up in the air.

To be called Norton Utilities for the Macintosh Version 2.0, the new product will preserve the look and feel of the current Norton program, according to sources. It also will incorporate some high-powered recovery technology from SUM (Symantec Utilities for Macintosh), as well as a new backup module, a much-enhanced Directory Assistance extension and other improvements.

SUM, originally released in 1988, was Symantec's first entry in the Macintosh utilities market. The company acquired the Norton software 18 months ago when it merged with Peter Norton Computing Inc. Symantec officials said at the time that they would let the market decide whether to maintain both programs. Released last July, the Norton Utili-

See Symantec, Page 119

Microsoft's Mac market share


Spreadsheet (Excel) 70%
Word processing (Word) 53%
Integrated software (Works) 92%
Desktop presentations (PowerPoint) 40%
E-mail (Mail) 37%
Market share of Microsoft's Mac applications by category, measured in worldwide unit sales as of September 1991.

Source: The Hartsook Letter

Love-hate relationship binds Apple, Microsoft

By Andrew Gore

Redmond, Wash. — Apple's suspicions of Microsoft Corp., referred to as the "Evil Empire" in some of Apple's internal correspondence, have come into conflict with the company's goal of fostering development of innovative applications for the Mac first.

According to Apple insiders, management's attitude toward Microsoft is ambivalent. On one hand, "Microsoft is our most important and biggest developer," said Kirk Loevner, director of Apple's developer group. "Our research shows it controls 30 percent of the worldwide Mac applications market."

On the other hand, Microsoft Windows 3.0 is the single biggest threat to Apple's future, according to Apple CEO John Sculley and many industry observers.

The dilemma for Apple, insiders said, is how to support its most important developer without compromising its edge over its biggest competitor.

▸ **Development support.** According to Mike Maples, senior vice president of Microsoft's applications division, Apple is not providing Microsoft the same level of support it gives other developers. And that shortfall could ultimately affect Microsoft's Mac development efforts.

"Because Microsoft is so impor-

See Microsoft, Page 119

DTP links to host databases

Sapphire polishes mainframe data

By Neil McManus

Foster City, Calif. — A Mac desktop publishing application due next year will let users create automatically updated links between their layouts and mainframe and minicomputer databases.

CoRelation Inc.'s information-publishing program, code-named Sapphire, will allow users to create formatted reports with hooks to multiple databases on mainframes, minicomputers and microcomputers.

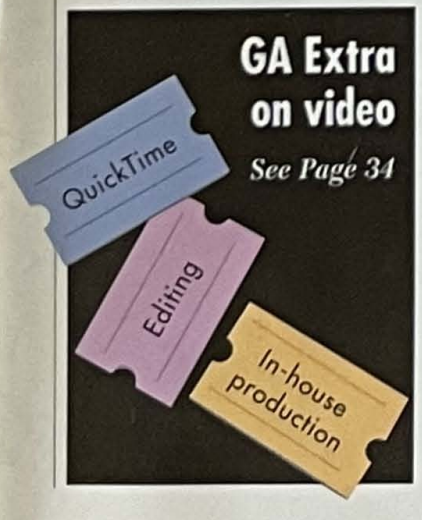
CoRelation plans to demonstrate Sapphire at the Boston Macworld Expo in August and ship it later in 1992. An individual version will sell for $795, while a professional version will cost $895. Both versions will contain database-access features and layout and publishing tools; the professional version adds a dBASE-like scripting language.

Larry Barcot, a database developer and corporate IS consultant at Escape Inc. in Costa Mesa, Calif., said Sapphire will let users generate database reports without "having to be constantly married to a programmer."

"Databases are beginning to get a bad name because it's too hard to pull information out of them," said Barcot, a beta user for Sapphire. "If ordinary users can't get information from a database, then what good is it? Sapphire will let users get that information."

Sapphire's querying features and ability to automatically update information from remote databases each time a report is opened set the program apart from database-import filters for page-layout pro-

See Sapphire, Page 120



Diagnostics at hand with TechStep

But Apple will limit distribution

By Rochelle Garner

Cupertino, Calif. — Apple last week officially announced TechStep, its much-anticipated handheld device that performs quick diagnostics on CPUs and Apple-brand SCSI drives.

Weighing just 2 pounds, the unit is designed to let technicians pinpoint failed components without cracking open the Mac.

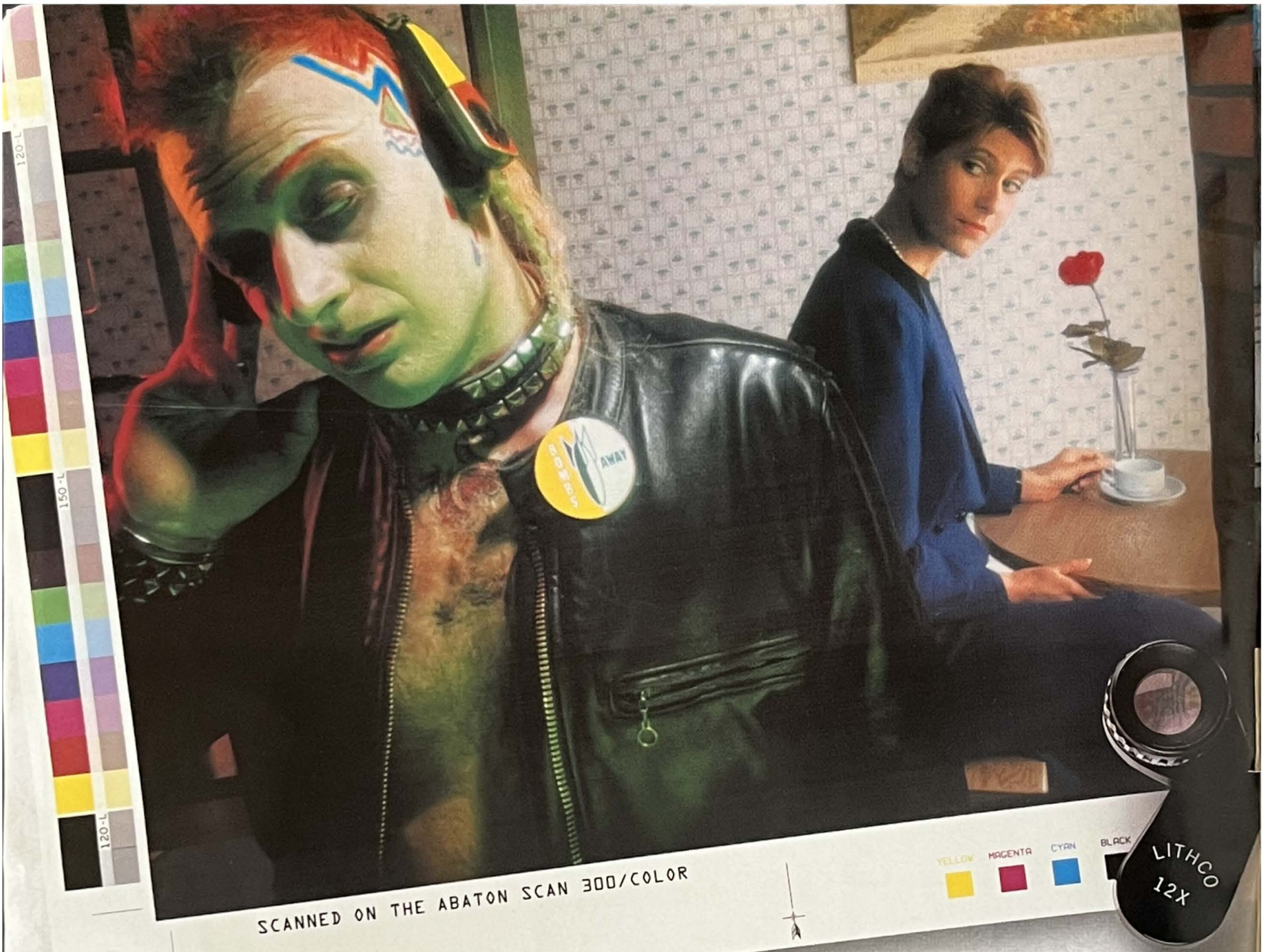
The catch? Only authorized service providers will be able to get their hands on the Apple TechStep when it begins shipping in quantity next month. That qualification rules out even dealer-sponsored service organizations (DSSOs), since they cannot buy spare parts directly from Apple.

"I drooled when I saw TechStep, and I'm heartbroken I can't get it," said Kirk Mackes, information center administrator at Connaught Laboratories Inc. in Swiftwater, Pa. "[TechStep] would represent such an invaluable time savings that I would gladly pay double what service providers are

See Tech, Page

Apple TechStep can plug into any Mac interface to perform a range of CPU and SCSI diagnostics. A small LCD displays error codes.

NEWSPAPER SECOND CLASS



Proof that Abaton's color scanner can make anything look attractive.

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Fastest-growing Mac-related companies

RANK	COMPANY	SALES GROWTH (% change 1986-90)	1990 SALES (thousands)
4	TechWorks Inc.	17,154	$20,787
13	Ehman Inc.	8,722	$30,084
18	Shiva Corp.	7,959	$16,199
47	Intuit Inc.	4,106	$33,059
71	Reference Software Int'l	3,135	$9,737
79	Remote Control Int'l	2,937	$3,158
80	PLI	2,924	$18,658
84	Deneba Systems Inc.	2,743	$5,402
95	Comp USA	2,459	$300,355
197	Traveling Software Inc.	1,457	$14,218
204	Digidesign Inc.	1,423	$9,685
238	Welcom Software Technology Inc.	1,273	$12,222
245	Micro Dynamics Inc.	1,255	$5,759
269	Mastersoft Inc.	1,180	$1,434
413	Banyan Systems Inc.	829	$98,178

Source: Inc.

Mac vendors in Inc. 500 list

Boston — At least 15 Mac-related companies made the Inc. magazine list of the 500 fastest-growing companies in the United States for 1990.

Three Mac vendors ranked in the top 20 on the annual Inc. 500 survey, which appears in this month's issue of the publication. TechWorks Inc., the Austin, Texas-based memory supplier formerly known as Technology Works Inc., finished fourth, up from 34th a year ago.

The companies are ranked according to revenue growth over a five-year period. Only independent, privately held companies that had sales of $100,000 to $25 million in 1986 were eligible. Information was drawn from tax forms, letters from certified public accountants and telephone interviews, according to the magazine. □

Radius gives PowerBooks view boost

San Jose, Calif. — Radius Inc. last week shipped PowerView, a SCSI video interface that lets the Macintosh PowerBook 140, PowerBook 170 and Classic II connect to external display systems.

The $599 PowerView supports external color displays, full-page displays or large-screen projection systems.

The device, one of several third-party video adapters (see MacWEEK, Oct. 22), broadens PowerBook functionality, Radius said, allowing the lightweight notebooks to plug into a large-screen monitor so they can be primary office machines, and into projection systems so they can be portable presentation machines.

The PowerView supports the AppleColor 13" RGB display, the Radius Full Page Display, the Apple 12" display, 640-by-480-pixel VGA displays and the portrait mode of the Radius Pivot and Color Pivot.

It also works with all large-screen projection systems that are compatible with VGA or with the AppleColor 13" RGB.

Radius Inc. is at 1710 Fortune Drive, San Jose, Calif. 95131. Phone (408) 434-1010; fax (408) 434-0770. □

Alias pulls Sketch! from market

Toronto — If you blinked, you already missed your chance to buy Alias Sketch! this year. Alias Research Inc. last week pulled the program less than two weeks after its release.

Alias said it expects to reissue the $1,995 program, which promised to simplify 3-D drawing (see MacWEEK, Nov. 19), early next month.

Users who managed to get their hands on the shrink-wrapped copy reported a range of rendering and memory-handling problems, as well as frequent system crashes and excessive screen redrawing.

The company has acknowledged problems with its copy-protection hardware, which prevents users from saving their work by kicking the software into demonstration mode. Alias said it has decided not to remove the hardware lock. The sources of other problems reportedly are being examined as well.

Alias Research Inc. is at 110 Richmond St. E., Toronto, Ontario M5C 1P1, Canada. Phone (416) 362-9181; fax (416) 861-8802. □

News

4 **Manhattan transfer: Ready,Set,Go! returns home**
Letraset gives DTP program back to creator.

6 **RealTech shatters color display price barriers**
Eight-bit displays under $2,000; 24-bit under $3,000.

6 **Casady & Greene takes AME to new level**
Version 2.0 simplifies installation.

16 **FYPlan offers big-budget management**
Multi-user software brings spreadsheet alternative.

Gateways

22 **Will Microsoft challenge break Apple's DAM?**
While Blyth delivers DOS and Windows clients for DAL, Microsoft proposes new data-access standard.

22 **TechWorks adds Asset Manager to GraceLAN suite**
New application stores inventory data, configuration information collected by Network Manager.

GA

30 **Adobe hopes to spin Carousel in 1992**
PostScript-based interchange technology will let platforms share formatted documents.

30 **Tech analysis: MPEG puts squeeze on video**
Compression standard aims to make video and audio on CD-ROM practical.

34 **GA Extra: Mac-based video production**
- The do's and don'ts of QuickTime.
- How QuickTime performs.
- Third parties take wait-and-see approach.
- Corporations sold on Macs for video.
- Many Mac-based video-editing systems to choose.
- Macs join the character generation.

47 **New Media/Steve Rosenthal**
Let's hear it for refining desktop audio tools.

48 **Boldface/Ezra Shapiro**
Desktop publishing still does it by the book.

Opinion

52 **Editorial**
User activism can pay off with Apple.

52 **Letters**
ISDN does not live on speed alone.

54 **Commentary/Jean-Louis Gassée**
Document interchange may come around.

54 **Mac Manager/Don Crabb**
Time for IS managers to examine multimedia.

Reviews

57 **New ClarisWorks a suite success**
Claris packs power, flexibility and ease of use into its new integrated application.

57 **CE delivers new QuickMail**
Upgrade lets managers of mixed networks connect MS-DOS, OS/2 and Mac platforms.

60 **In Brief: Monet**
Users become impressionists with new paint utility.

64 **Contact utilities touch home**
TouchBASE and INtouch help contact managers keep finger on personal information.

65 **Booking your time**
Schedule Publisher long on power, short on usability.

65 **New distribution program keeps users up-to-date**
NetDistributor updates apps over networks.

ProductWatch

69 **Setting up for in-house video**
The challenge of in-house video production is finding the right equipment that suits your needs.

72 **MacInTouch/Ric Ford**
Today's Macs becoming too complex.

72 **Ask David Ramsey**
Building a bigger PowerBook cursor.

BusinessWatch

115 **Poll finds workers unhappy with Apple management**
Pulse Survey shows employees satisfied with working conditions but fear superiors not committed to them.

115 **Apple loses Desktop IV bid**
Files protest with General Services appeals board.

Mac the Knife

122 **Reviewing Business Management 101**
Why Macs still can't mount MS-DOS-formatted disks without a little help.

74 Ad Showcase
78 Mail Order
100 Classified
113 Careers
121 Product Index
121 Advertiser Index

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Ready,Set,Go! goes back to creator

By Shawn Tomlinson

Paramus, N.J. — After letting the oldest living desktop publishing program languish for more than two years, Letraset has returned Ready,Set,Go! to its creator.

Manhattan Graphics Corp. will resume U.S. marketing and distribution of Ready,Set,Go! along with DesignStudio, a higher-end DTP program, and StandOut!, a presentation program, effective Jan. 1.

"We're very excited about it," said Martin Rosenberg, founder and president of Manhattan Graphics, based in Scarsdale, N.Y. "We'll be working on joint development of the products with Letraset, and we'll announce our future plans in a few weeks." He said tentative plans are to upgrade Ready,Set,Go!, but he wouldn't comment on DesignStudio's future.

Letraset will maintain rights to the products in international markets — where they have generally outsold their domestic counterparts. The agreement doesn't affect other Letraset products, such as ColorStudio.

"People see [Letraset] as a type and imaging company," said Martin Dowzall, general manager of Letraset's Graphics Software Division. "We've had a lot of success with products such as ColorStudio, and we're going to focus on them." He said he believes Manhattan Graphics will be able to give the DTP products the attention they need and pointed out that Letraset will still have a hand in development, especially for European markets.

"It seems to me that Manhattan Graphics will probably do a better job of maintaining and marketing these products than Letraset did," said Pieter Hartsook, editor of The Hartsook Letter, a Macintosh market newsletter based in Alameda, Calif. "Because of a lack of development from Letraset, Ready,Set,Go! has fallen into last place and is now getting competition from word processors."

Manhattan Graphics began working on Ready,Set,Go! as a professional typesetting and layout package shortly after the Mac was introduced in 1984, according to Rosenberg. Version 1.0 was released in January 1985, seven months before Aldus Corp. introduced PageMaker. Manhattan Graphics sold the rights to Letraset two years later, after the release of Version 3.

DesignStudio, a high-end DTP package, was introduced in November 1989 to compete more directly with Aldus PageMaker and QuarkXPress.

Ready,Set,Go! has not been upgraded since April 1989, while Version 2.0 of DesignStudio was released in February 1991. StandOut!, originally called Ready,Set,Show!, hasn't been upgraded since Letraset purchased it from Manhattan Graphics in August 1988. □

Microtech rolls out RAM, drives for PowerBooks

By Henry Norr

East Haven, Conn. — Moving aggressively into the PowerBook market, Microtech International Inc. last month introduced a pair of internal hard disks and a trio of relatively low-cost memory upgrades for the new Mac notebooks.

▸ **Hard disks.** The Roadrunner 40i and 80i, with capacities of 40 and 80 Mbytes, respectively, are due to ship this week, according to the company. The products are based on 2.5-inch Quantum mechanisms with average seek times of 19 milliseconds and power consumption comparable to that of the 20- and 40-Mbyte drives currently built into all PowerBooks, according to Microtech. The Roadrunners are covered by two-year warranties.

Beginning at about the end of the year, the company will offer customers three options for their original hard disk: an external case, a kit that permits installation in a Mac Classic or Classic II, or a small trade-in rebate. Pricing and other details have not been set, a company spokesman said.

▸ **Memory-expansion cards.** Microtech last month began shipping cards that add 2, 4 or 6 Mbytes of pseudo-static RAM to the PowerBooks. The Coyote-2 lists for $225, the Coyote-4 for $438 and the Coyote-6 for $593 — appreciably lower than the prices previously announced by other PowerBook memory vendors (see MacWEEK, Oct. 22). Because the card for the PowerBook 100 differs slightly from that for the 140 and 170, buyers must specify their Mac model.

The cards carry a five-year warranty. Microtech recommends dealer installation, but a spokesman said users equipped with the Torx wrenches required to open PowerBook cases should have little trouble adding the RAM themselves.

Microtech International Inc. is at 158 Commerce St., East Haven, Conn. 06512. Phone (203) 468-6223 or (800) 626-4276; fax (203) 468-6466. □

Anything else is just work.

DataViz calls new MacLinkPlus 'System 7-aggressive'

By Henry Norr

Trumbull, Conn. — The granddaddy of Mac format-translation utilities is now out in a new version its publisher describes as "System 7-aggressive."

Version 6.0 of DataViz Inc.'s MacLinkPlus/PC and MacLinkPlus/Translators can function as "translation servers" that other applications can call on via Apple events for on-demand import and export.

Using the new system's Edition Manager, the programs also can publish translated files to other Mac users or programs. And System 7 users can translate files simply by dragging them to the MacLinkPlus desktop icon; the program will ask once for a destination file type, then remember the program selected the next time the user drags a similar file.

The new versions also add balloon help, processing of aliases and compatibility with 32-bit addressing and virtual memory.

Other enhancements include:

- **Automatic recognition.** Under System 6 as well as 7, users can now double-click DOS files mounted on the Mac desktop via Dayna Communications Inc.'s DOS Mounter, which is included with the DataViz products. The MacLinkPlus application automatically launches and translates the file, then opens the document in the desired application.
- **New translation options.** The new version provides more than 100 additional translation paths, bringing the total to more than 400. Newly supported formats include Ami Professional, Excel, RTF, Microsoft Works database (Mac and PC), AppleWorks (word processing and spreadsheet), FrameMaker (MIF 2.0 and 3.0 import and export) and Professional Write.
- **Windows application.** The products now come with a Windows translation application as well as Mac and DOS software.

MacLinkPlus/PC, which includes a serial cable and file transfer software, remains priced at $199; MacLinkPlus/Translators is $169. Upgrades are $50, or $20 to customers who purchased an older version within 90 days of ordering Version 6.0.

DataViz Inc. is at 55 Corporate Drive, Trumbull, Conn. 06611. Phone (203) 268-0030; fax (203) 268-4345. □

NIST plans to extend DSS comment period

By Mitch Ratcliffe

Washington — The National Institute of Standards and Technology last week said it will extend the public-comment period on its proposed Digital Signature Standard in response to public concern.

DSS, a technology for verifying the identity of the person authoring an electronic message and the authenticity of the document, was proposed in August. Many cryptographers and companies have expressed concern that the standard, which will set an example for future privacy technologies, might not withstand an attack by supercomputers.

In November, the National Security Agency revealed it had authored DSS, adding to fears that the standard is contrived to withstand most attacks but not those of the federal government's computer intelligence agency (see MacWEEK, Nov. 5).

The new deadline for public comment will be Feb. 28, 1992. Previously, the deadline was Nov. 29.

Public pressure forced NIST to change the deadline, said Lynn McNulty, associate director for computer security at NIST's Computer Systems Laboratory. He characterized comments received as positive from government agencies and negative on the part of the private sector.

Prominent among private companies protesting the standard was RSA Data Security Inc. of Redwood City, Calif., which has developed a widely licensed digital signature algorithm that might be usurped by the DSS.

"There was a lot of concern that the hashing algorithm we'll be using was unavailable. That will be made public within the next couple weeks," McNulty said. The hashing algorithm will contribute to the randomness — and thus to the complexity — of breaking a digital signature.

McNulty also said NIST is beginning to develop a plan for a digital-signature certification authority that would verify signatures used in government and business transactions. He said the NIST plan would probably allow for use of both the DSS and RSA algorithms because "we want to avoid any more holy wars." □

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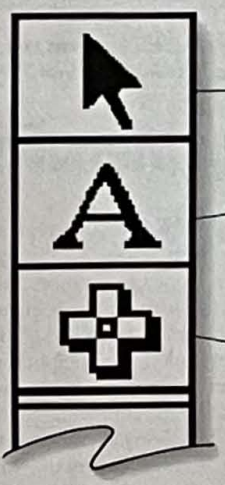
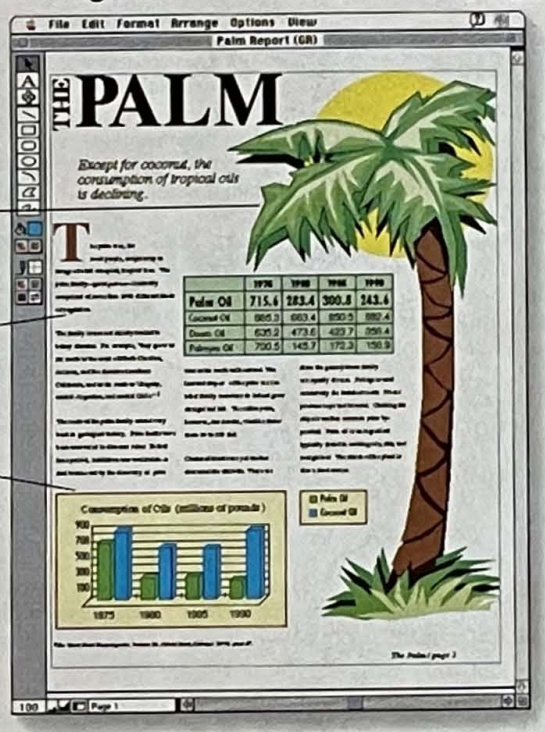


From within a text document, you can click on the graphics tool and start drawing. Or click on the spreadsheet tool and create a spreadsheet right in the middle of your document. Whatever tool you select, its menu bar appears at the top.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Consumption of Oils (millions of pounds)
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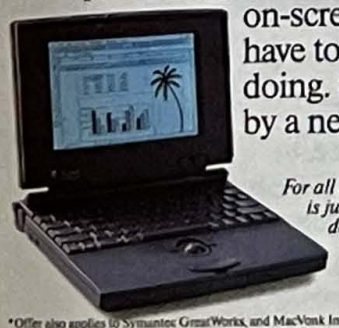

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RealTech systems cut quick-color cost

Accelerated true-color, 19" screens for $3K

By Matthew Rothenberg

Conroe, Texas — Micro Business Solutions Inc. has shattered price barriers with its new RealTech Trinitron color display systems, which deliver eight-bit or accelerated 24-bit color on 19-inch screens for less than $2,000 and $3,000, respectively.

Available now through Software and Hardware that Fits, both RealTech systems include a 19-inch Trinitron monitor with a resolution of 72 dpi, a display area of 1,024 by 768 pixels, and a 75-Hz vertical and 60-kHz horizontal screen-refresh rate. Comparable monitors are available separately from other vendors for about $3,000.

Micro Business Solutions' new eight-bit and accelerated 24-bit RealTech display systems include a 19-inch Trinitron monitor.

▸ **The RealTech 24-bit system,** $2,895, also features the RT-24, an accelerated 24-bit-color NuBus video board. The RT-24 card provides up to 600 percent QuickDraw acceleration. It also contains SIMM (single in-line memory module) sockets for up to 16 Mbytes of on-board RAM for GWorld display, an Apple technology that creates images off-screen for quicker display. The card supports hardware pan and zoom, permitting desktop sizes up to 11 by 17 inches.

According to industry sources, the RT-24 is manufactured by RasterOps Corp. of Santa Clara, Calif., and is identical to that company's $3,499 24XLi card (see MacWEEK, Oct. 1).

▸ **The RealTech eight-bit system,** $1,895, can be used with any NuBus Mac, as well as through the processor direct slot of the LC, SE/30 and IIsi. It includes an unaccelerated eight-bit-color video card that cannot be upgraded to the 24-bit system, according to Micro Business.

Software and Hardware that Fits is at 610 S. Frazier, Conroe, Texas 77301. Phone (409) 539-3959 or (800) 972-3018; fax (409) 539-4141. □

AME 2.0 gets easy installer, file-hiding feature

By Mitch Ratcliffe

Salinas, Calif. — Security-conscious users will have a heyday with the new release of Casady & Greene Inc.'s Access Managed Environment utility.

Available now for $279, Version 2.0 of the multifaceted security package adds a variety of features and resolves some but not all of the program's incompatibilities with other software. It still does not work with System 7, but the company said an upgrade compatible with the new system will ship early next year.

"AME lets you set various levels of security" for different users, giving administrators the "flexibility to customize and to reconfigure as security needs change," said Bob Brands, network manager for a NASA contractor.

Version 2.0 of AME adds:

▸ **Bernoulli support.** AME will protect and deprotect Iomega Inc.'s Bernoulli removable disks.

▸ **Easy install and extract.** AME now ships with a one-click installer for the start-up volume and lets users install and remove security on other disks.

▸ **System-upgrades support.** Previously, users were required to remove AME before upgrading their system. Now, AME allows any installer that does not require starting from a floppy disk to add new resources, such as the Macintosh Communications Toolbox, to the System folder.

▸ **Invisible volumes.** Folders, files and drives now can be hidden from users, even if they run ResEdit.

▸ **Forced saving, purging.** AME can be configured to require users to save files to specific folders or to floppies. It also can remove files after an administrator-defined period of time.

AME is incompatible with virtually all third-party hard disk tools and driver updaters. It also is incompatible with Rodime Systems Inc.'s Cobra drives, all versions of Microsoft Excel before 2.2a, disk-mirroring software and other older applications.

AME 2.0 resolves incompatibilities with Silicon Beach Software's SuperPaint 2.0, the shareware program SuperClock 3.9 and Sitka Corp.'s TOPS 3.0.

Upgrades will sell for $49.95. Quantity pricing is available.

Casady & Greene Inc. is at 22734 Portola Drive, Salinas, Calif. 93908. Phone (408) 484-9228; fax (408) 484-9218. □

For the Record

The Nov. 19 ProductWatch section gave an incorrect price for Fifth Generation Systems Inc.'s Suitcase II. The correct price is $79.

The first paragraph of the Nov. 19 story on UserLand Software Inc. implied that the company is shipping Frontier for free. As the remainder of the article stated, only the Frontier Software Developer's Kit is free. Frontier itself, a commercial product, is slated to ship early next year.

The Nov. 5 Screen Test incorrectly identified the maker of Fontographer 3.1. The font-creation software is from Altsys Corp. of Richardson, Texas.

Phoenix plans PostScript Level 2 clone

By Neil McManus

Norwood, Mass. — Phoenix Technology Ltd. last week announced it will release a PostScript Level 2-compatible interpreter to printer manufacturers next spring.

Phoenix said its interpreter, the first PostScript Level 2 clone, will emulate the Level 2 capabilities of Apple's new LaserWriter IIg (see MacWEEK, Oct. 1).

Adobe Systems Inc.'s PostScript Level 2, released this summer, offers complete compatibility with all PostScript images and fonts. It also adds several features, such as device-independent color; built-in Adobe Type Manager font rendering; JPEG (Joint Photographic Experts Group) image compression; improved forms handling; and composite fonts, allowing larger character sets.

Adobe officials refused to comment on Phoenix's Level 2 interpreter, but analysts said Phoenix has experience developing PostScript-compatible interpreters for printer manufacturers such as CalComp Inc., Seiko Instruments USA Inc. and Xante Corp.

"If anybody can clone Level 2, Phoenix can," said Marc Boer, an analyst at BIS Strategic Decisions in Norwell, Mass. "Phoenix has already cloned a lot of the features of Level 2, so it's pretty much a matter of putting all the pieces together."

But Boer said that only about 4 percent of PostScript printers sold in 1990 used non-Adobe interpreters. □

Tektronix spins CAChe Worksystem to new CAChe Scientific company

By Raines Cohen

Portland, Ore. — Tektronix Inc. last week spun off its Computer Aided Chemistry (CAChe) Group to form a new company, CAChe Scientific Inc. The new company will continue to market the CAChe Worksystem, a Mac-based bench chemistry system Tektronix introduced in 1989.

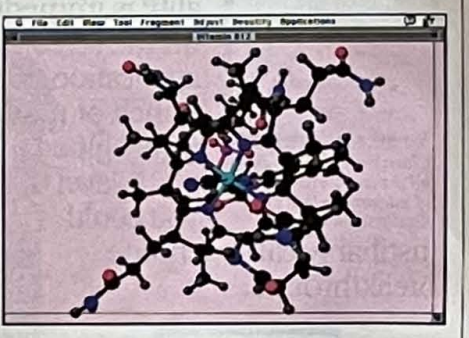
CAChe Worksystem sells for $20,000 to $40,000, including a Mac and high-speed RISC (reduced instruction set computing) coprocessor, although the company started offering it without the Mac last year.

The software can perform reactivity modeling, combining molecular modeling with finding transition states, docking frontier orbitals, analyzing conformations and visualizing electrostatic interactions. The Visualizer module presents stereo 3-D images of molecular orbitals, partial charges, electron isodensity surfaces and electrostatic potentials.

The company recently announced two enhancements to the system. Crystallography enhancements let chemists view and manipulate crystal structures in stereoscopic 3-D to model surfaces, edit crystal defects and model molecules in zeolite channels. Spectra prediction and visualization enhancements let users visually analyze calculated vibrational spectra from standard electronic-structure programs.

Tektronix said it divested itself of the business to focus on its test and measurement, graphics, and communications electronic products and systems. It is investing an undisclosed amount in CAChe Scientific.

CAChe Scientific Inc. is at P.O. Box 500, Beaverton, Ore. 97077. Phone (503) 645-6464 or (800) 547-8949; fax (503) 526-2901. □



The CAChe Worksystem, which performs molecular modeling on the desktop, is available now from CAChe Scientific.

Dubl-Click spiffs up MenuFonts

By Raines Cohen

Chatsworth, Calif. — Dubl-Click Software Inc. last week shipped an update to its font-utility program. MenuFonts 4.0 adds several features aimed at publishing and presentation users, who often have many fonts of differing types installed.

MenuFonts, released in 1987 by Tucson, Ariz.-based Beyond Inc., displays applications' font menus in the typefaces, rather than in the Chicago font. When it acquired MenuFonts in 1990, Dubl-Click enhanced it to add keyboard-based font selection and display fonts in several sizes.

With Version 4.0, the price of MenuFonts has jumped $10, to $69.95. New features include:

▸ **FontShow.** A submenu can display a font's ID number, name, type, the file names for screen and printer fonts, and examples of sizes. The information can help users resolve conflicts between fonts and quickly find the file containing them to transfer them between machines.

▸ **Prefix removal.** MenuFonts can now remove characters such as B, I and UL, used to indicate style characteristics, from font names.

▸ **Grouping.** Fonts can be grouped by family or any other user-defined criteria.

MenuFonts includes three other font utilities: BigCaps, which replaces Apple's Key Caps; FontCharter, which can display and print charts of fonts; and FastFormatter, which formats disks quickly.

Version 4.0 requires System 6.0.5 or later. MenuFonts users can upgrade for $20.

Dubl-Click Software Inc. is at 9316 Deering Ave., Chatsworth, Calif. 91311. Phone (818) 700-9525 or (800) 359-9079; fax (818) 700-9727. □

MenuFonts displays font menu entries in their actual type style to help desktop publishers. Version 4.0 adds more detail on font files.

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Moniterm files Ch. 11, to sell Nutmeg

By Shawn Tomlinson

Minnetonka, Minn. — After expanding its scope by acquiring Nutmeg Systems Inc. in June, Moniterm Corp., a monitor producer based here, has filed for protection from creditors under Chapter 11 of the Federal Bankruptcy Act.

Moniterm said it plans to sell Nutmeg back to Thomas Research Corp., from which it purchased Nutmeg five months ago (see MacWEEK, June 25).

"We ran out of cash," said John McClung, CEO of Moniterm. "We were not in a position to pay our old bills, and we had to seek protection. This allows us to restructure our debt and go forward."

McClung said that selling Nutmeg, a monitor company based in New Canaan, Conn., back to Thomas Research is part of Moniterm's overall restructuring plan. He wouldn't comment on whether the acquisition affected Moniterm's decline.

The boards of directors of both Thomas Research and Moniterm have OK'd the selling of Nutmeg, but, according to McClung, final approval is up to the court handling the bankruptcy case.

James C. Ackerly, president of Thomas Research, said he hopes for that approval in about a month.

According to Ackerly, who also is a member of Moniterm's board, Nutmeg has released several new products recently and has plans for PowerBook-related display products in the near future.

"The two [marketing and support] cultures of Nutmeg and Moniterm didn't mesh," said Ackerly in a prepared statement. "[Nutmeg] suffered in a number of ways from the brief relationship [with Moniterm]." □

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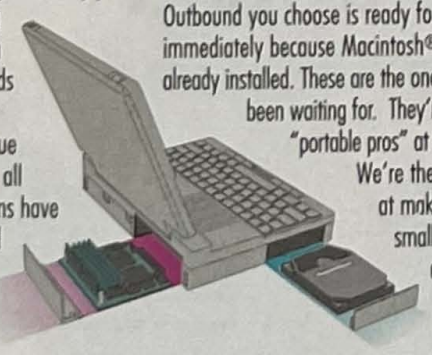

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PowerTrax 1.2 lets net users share contacts

By Mitch Ratcliffe

Atlanta — Building broadly accessible marketing databases may be easier after Soft Solutions Inc. releases a network version of its contact-tracking software.

Due in January, the $495 PowerTrax 1.2 is based on ACIUS Inc.'s 4th Dimension database. The application will let networked and remote users access a password-protected list of contacts.

PowerTrax provides a graphical environment in which users can record data about telemarketing contacts. Fields are linked to pop-up menus of predefined titles and keywords to establish uniformity across the network, facilitating faster searches. The application also provides word processing, calendaring and reminders for each contact.

A PowerTrax database can reside on any Macintosh on an AppleTalk network.

An administrator is required to manage passwords and access to database information. The administrator can read all data and grant other users "see all" access to contact records and calendars. For example, this feature would allow sales managers to review their staff's sales activities. Users, however, can lock a record, limiting access to the administrator.

PowerTrax 1.2 offers networked users access to a database of marketing contacts, telemarketing reminders and a word processor.

An export feature allows users to package data for use on a standalone Macintosh or a networked PowerTrax client. Updates to packaged files can be limited or turned off.

Soft Solutions said the network version will run faster once ACIUS ships its long-promised 4D Server, a dedicated, multi-user SQL server.

Quantity discounts will be available. Upgrades are free.

Soft Solutions Inc. is at 2900 Chamblee Tucker Road, Building 12, Suite 200, Atlanta, Ga. 30341. Phone (404) 457-9400; fax (404) 454-9800. □

epsiTalk helps HyperCard stack up as network programming tool

By Raines Cohen

Surrey, British Columbia — The click of a button can make HyperCard stacks multi-user with the assistance of a utility stack recently added to epsiTalk, a network stack-development tool kit from epsi computer systems inc.

Released earlier this year, epsiTalk provides AppleTalk communications between HyperCard stacks. It uses Apple's ADSP (AppleTalk Data Stream Protocol) to quickly and reliably transfer large blocks of data, as well as execute scripts on other Macs.

MultiMaker, a new stack included with Version 1.02 of epsiTalk, can modify an existing stack to add card locking, a finer-grained form of access than the file locking other stack-sharing systems provide.

"I have one client-information stack running on two machines to track accounts and monitor renewals and cancellations," said Ted Murray, account executive with Marsh & McLennan Ltd., a Vancouver, British Columbia, insurance firm. "It saves me having to do shoe-net — carrying files around. Searches can be done from either machine. It's fast and a good product."

A five-user epsiTalk license is $199. Registered users can upgrade free.

epsi is at 8296 120th St., Suite Two, Surrey, British Columbia V3W 3N4, Canada. Phone (604) 596-8334; fax (604) 596-8050. □

Campaign brings VDT hazards to light

By Nathalie Welch

Santa Rosa, Calif. — Optical Coating Laboratory Inc. last month launched a program to inform the public about the special hazards that working with VDTs presents to computer users' eyes.

The campaign consists of nationwide distribution of print, television and radio public-service announcements to disseminate the results of a survey of more than 5,000 optometrists.

Conducted by Dr. James E. Sheedy, chief of the VDT Eye Clinic at the University of California at Berkeley, the study revealed that VDT-related eyestrain affects more than 10 million computer users per year. Top VDT-related visual symptoms are eyestrain, headaches and blurred vision.

Sheedy undertook the survey to remedy the fact that there were no national statistics on the numbers and types of visual problems related to computer usage.

Optical Coating Laboratory, which sponsored the study, is a manufacturer of thin-film coated components such as its MacGlare/Guard series of computer screen filters for the Macintosh.

Optical Coating Laboratory Inc. is at 2789 Northpoint Parkway, Santa Rosa, Calif. 95407-7397. Phone (707) 545-6440; fax (707) 525-7410. □

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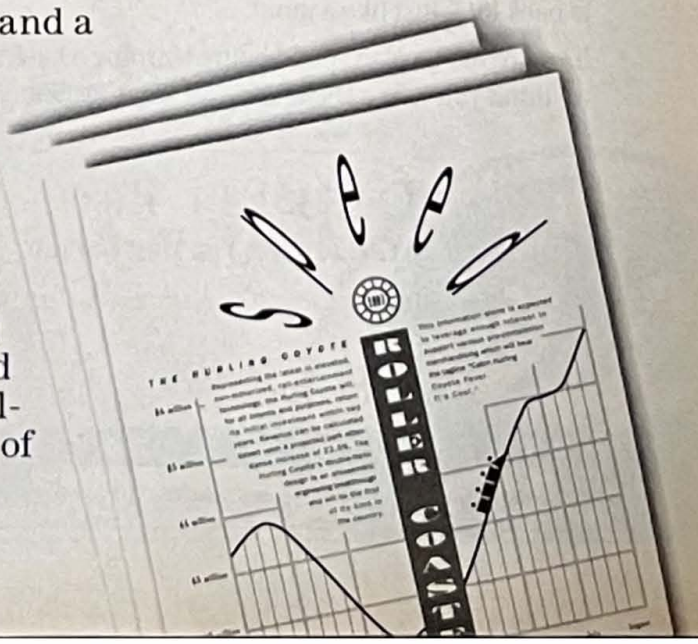

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InterPlot adds support for Apple events, infinities

By Raines Cohen

Silver Spring, Md. — System 7-savvy scientists seek smooth solutions. Scientific Visions delivers. Last month the company shipped an update of its InterPlot scientific plotting application, InterPlot Version 1.1.

While the original $99.95 InterPlot, which shipped last summer (see MacWEEK, June 18), already incorporated support for System 7's balloon help, the new Version 1.1 adds more balloons as well as support for required Apple events (to open and print documents). Users can send events on a local machine or over a network. If sent from a remote machine, InterPlot Version 1.1 will not display dialogs that would interfere with operations on the Macintosh on which it is running.

The company said it will ship early next year a version with support for a richer set of Apple events, so other applications will be able to control InterPlot.

Data windows in the new version can handle 30,000 points, 25,000 more than in the previous version. In addition users now can import multiple-column spreadsheet-style data as well as select multiple values at one time.

The updated program can handle infinities in data sets, as well as print lines as thin as printers allow. A new graphical data-analysis tool enables users to evaluate functions they previously have defined by dragging across graphs in windows. In addition users now can interrupt long operations, such as charting or importing.

Scientific Visions is at P.O. Box 1971, Silver Spring, Md. 20915. Phone (301) 593-0317. □

Centa sells Total Recall through retail channel

By Henry Norr

Anaheim, Calif. — Mac tape-drive users recently got another backup-software option with the release of Version 1.5 of Centa Systems' Total Recall.

The original version of the program, introduced two years ago, was available exclusively with storage products from Microtech International Inc. of East Haven, Conn. The new release, priced at $89, is the first version Centa will market actively through retail channels.

Total Recall supports all Finder-mountable media, as well as Teac, WangDAT, Wangtek, Hewlett-Packard, Tandberg and Exabyte tape-drive mechanisms.

Features include a tree view for manual file and folder selection; automatic selection by application, desktop icon color, and creation or modification date; scripts; backups to multiple tapes; password protection; an activity log; and unattended scheduled backups, so long as the Finder is the foreground application.

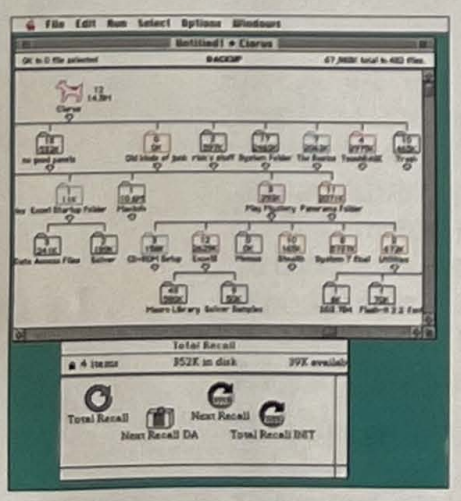
Version 1.5 adds System 7 support, including balloon help and file sharing.

"Total Recall's big plus is that it works the way you'd expect things to work — you click on a folder and it's selected," said Steve Waechter, proprietor of Americopy Printing and Graphics Center in Fullerton, Calif., who uses the program with several 60-Mbyte cassette tape drives. "I used to try to use [Dantz Development Corp.'s] Retrospect and DiskFit, but I really couldn't figure them out, and I am just not willing to study a manual to do a backup."

About the only feature missing, Waechter said, is data compression.

Upgrades to Version 1.5 are $29.95.

Centa Systems is at 5130 E. La Palma Ave., Suite 106, Anaheim, Calif. 92807. Phone (714) 693-8825 or (800) 522-5939, Ext. 470; fax (714) 693-8618. □



Total Recall, Centa Systems' recently updated backup utility, lets users select files and folders for backup manually from a tree view or automatically by various attributes.

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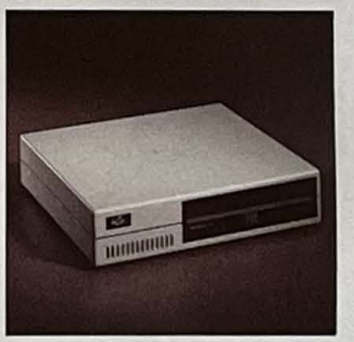

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Mutoh's fast plotter line drawing on fuzzy logic

Products look ahead to find optimum drawing path

By Rochelle Garner

Mt. Prospect, Ill. — Japanese companies have applied "fuzzy logic" technology to a range of consumer products, from cameras to vacuum cleaners. Now Mutoh America Inc. has incorporated the technology in its new line of pencil/pen plotters to produce fast plots and smooth drawing paths.

Both Mutoh's new $6,300 XP-500 and $4,800 XP-501 feature a 68020 microprocessor and can reach maximum plotting speeds of 44.5 inches per second at a 4.2G acceleration rate. The XP-500 handles up to E-size paper; the XP-501 can hold up to D-size. The series replaces the two plotters in Mutoh's iP-530 line, which offered a maximum speed of 27.8 inches per second and 2.1G acceleration, at the same price.

According to Mutoh, the plotters' built-in fuzzy logic will look ahead from 21 to 41 vectors to determine the optimum drawing path. The result is reduced paper movement and fewer pen changes, the company said. In addition, both HP-GL-compatible plotters can move pens up and down at 35 times per second, further increasing performance.

Both plotters can hold eight pencils, eight pens or a combination of pens and pencils in a single plot. When used with Mutoh's pens or pencils, the plotters will automatically choose the correct speed and pressure for the drawing tool. Users also can set up their own parameters for each pen cartridge.

In addition, the new plotters will automatically adjust for the different weights of paper, vellum and mylar, for example, to achieve more precise plots, the company said. Both ship with an RS-232 interface and a built-in 1-Mbyte buffer for downloaded files. Both plotters feature a 64-character LCD display for controlling such parameters as scale, rotation, offset, alignment and pen map. Mutoh expects to offer an RS-422, General Purpose Interface Bus (GPIB) and Centronics interfaces for its plotters, although prices have not been set.

Mutoh America Inc. is at 500 W. Algonquin Road, Mt. Prospect, Ill. 60056. Phone (708) 952-8880; fax (708) 952-8808. □

Mitsubishi Diamonds scan range of needs

By Shawn Tomlinson

Cypress, Calif. — Mitsubishi Electronics of America Inc. has come out with a new set of multisynchronous monitors ranging from 14 to 37 inches.

▸ **Diamond Pro 20.** Priced at $3,500, the 20-inch monitor has a maximum resolution of 1,280 by 1,024 pixels at 94 dpi. It comes with an anti-reflective panel for glare reduction and an integrated tilt-and-swivel base. It satisfies the Swedish standard for very low frequency, but not extremely low frequency, magnetic emissions.

▸ **Diamond Pro 37.** Formerly called the XC3725C, the $9,995 37-inch monitor features a maximum resolution of 1,280 by 1,024 pixels. Mitsubishi said it could not provide resolution in dots per inch because of the monitor's variable dot pitch.

▸ **Diamond Scan 14.** A 14-inch monitor priced at $839, the Diamond Scan 14 features a maximum resolution of 1,024 by 768 pixels at 85 dpi, video input, a high-contrast/anti-glare screen and integrated tilt-and-swivel base.

▸ **Diamond Scan 16.** Due in January for $1,499, the 16-inch monitor meets the Swedish government's standards for ELF magnetic emissions. It features a 1,152-by-882 pixel resolution at 116 dpi, a high-contrast/anti-glare screen, and an integrated tilt-and-swivel base.

▸ **Diamond Scan 20.** Available now, the 20-inch monitor is priced at $3,100 and features a maximum resolution of 1,280 by 1,024 pixels at 93 dpi. Diamond Scan 20LP, priced at $2,720, has a 1,024-by-768 resolution at 74 dpi. The $2,670 Diamond Scan 20M offers a maximum resolution of 1,024 by 768 at 74 dpi. Both the 20LP and 20M, due next month, satisfy ELF emission standards.

The Information Systems Division of Mitsubishi Electronics America Inc. is at 5665 Plaza Drive, P.O. Box 6007, Cypress, Calif. 90630-0007. Phone (714) 220-2500. □

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Language Systems brings 7.0 savvy to Fortran apps

New compiler adds support to older systems

By Raines Cohen

Herndon, Va. — Language Systems Corp. last month released its first System 7-savvy compiler. Language Systems Fortran 3.0 adds a number of features to help developers make applications that take advantage of System 7.

When run through the new compiler, existing Fortran programs will support the four required Apple events: open-application, open-documents, print-document and quit. Developers also can add support for publishing, using the Edition Manager, with a minor change to their code.

"With very few changes, Fortran programs written 20 years ago [can] exchange information with the latest, most sophisticated Mac applications," said Guy McCarthy, vice president of research and development for LSC.

Like earlier versions of the company's Fortran compiler, Version 3.0 supports Mac windows, menus and MultiFinder without requiring knowledge of the Mac Toolbox. All versions comply with the ANSI Fortran 77 standard.

New capabilities include debugging features such as heap validity checking, improved error dialogs and an execution-tracing window compiled directly into the finished application. The compiler itself supports aliases, and applications it creates can support TrueType. Compatibility with other platforms has been enhanced.

Fortran 3.0 sells for $595 with Apple's Macintosh Programmer's Workshop 3.2, or $495 for users who already have MPW. Current users can upgrade for $100, or for free if they purchased the compiler after June 1.

Language Systems Corp. is at 441 Carlisle Drive, Herndon, Va. 22070. Phone (703) 478-0181; fax (703) 689-9593. □

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Spectral speeds IPLab with DSP extensions

By Raines Cohen

Santa Clara, Calif. — Image processing is often time-consuming, but a digital signal processor chip can speed the complex computations it requires. Spectral Innovations Inc. announced last month that it is developing extensions to Signal Analytics Corp.'s IPLab to allow the application to take advantage of Spectral's line of DSP cards.

The company said the built-in functions, such as 2-D fast Fourier transforms, linear and median filters, image resizing with bilinear interpolation, and arbitrary image rotation work four to 10 times faster with the extensions and Spectral's MacDSP cards. It also accelerates translations between color spaces to facilitate image analysis.

The set of extensions will be sold by Spectral for $295. Users also can buy a complete package that includes IPLab, the MacDSP256KN accelerator and the extension software for $2,195; a full-color system, including IPLab Spectrum, sells for $2,395. All configurations are available now.

Spectral recently announced similar arrangements with Letraset's ColorStudio and The Math Works' Matlab. The company is expected to announce next month further multimedia connections based on its MacDSP3210 card, which it introduced last month (see MacWEEK, Nov. 19).

Spectral Innovations Inc. is at 4633 Old Ironsides Drive, Suite 401, Santa Clara, Calif. 95054. Phone (408) 727-1314; fax (408) 727-1423. □

Add balloons to 4D

Oklahoma City, Okla. — Business Network Inc. has released 4D Balloon Help, a set of externals for ACIUS Inc.'s 4th Dimension that allows database designers to add balloon help to menus and layouts.

With 4D Balloon Help, database developers can incorporate pictures and text in help balloons, and they can control them on-the-fly while the database is running.

4D Balloon Help is priced at $79.95. It is available for $49.95 to registered developers and user group members until the end of February.

Business Network Inc. is at 11604 Matthews Ave., Oklahoma City, Okla. 73162. Phone (405) 720-8816; fax (405) 722-8111. □

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Wyoming picks up Business Sense

By Dartanyan L. Brown

Evanston, Wyo. — Wyoming Software last month acquired exclusive rights to Business Sense, an integrated accounting package for small businesses from Inman Software, the most recent of its several publishers.

The program, first developed for the Macintosh 512K, originally was marketed by Digital Etc., sold to Monogram Software Inc., then reclaimed by Digital Etc. Last summer Inman bought the rights to Version 1.3 and lowered its price (see MacWEEK, Aug. 14, 1990).

Wyoming Software expects to ship Version 1.5 later this month.

Designed for companies with five to 50 employees, Business Sense includes modules for general ledger, accounts receivable, accounts payable, invoicing, payroll, budgeting and reporting.

New features include:

▸ **Improved file export and import.** Business Sense supports XTND, allowing users to share information with applications that support Apple and DataViz Inc.'s data-translation technology.

The program also supports the Timeslips III Accounting Link (TAL) from Timeslips Corp. of Essex, Mass. Timeslips III for the Mac is a time and expense tracking and billing program. Information generated by Timeslips can be linked with Business Sense's general ledger and accounting modules.

▸ **More flexible printing options.** Business Sense now supports double-stub check printing and W-2 forms on all printers, including Apple's StyleWriter and Hewlett-Packard Co.'s DeskWriter.

Current users can upgrade to Version 1.5 for $69. The program retains its $199 list price.

Wyoming Software is at 1565 Highway 150 S., Suite C, Evanston, Wyo. 82930. Phone (307) 789-7257; fax (307) 789-2055. □

Fair Witness gets savvy

By Dartanyan L. Brown

Allentown, Pa. — Chena Software Inc. last month shipped a System 7-savvy upgrade of Fair Witness, its "work processor" program.

With Fair Witness, users can outline ideas, tabulate preferences, track projects and design information charts that combine a variety of data types, including sound and graphics (see MacWEEK, July 30).

Still priced at $495, Version 1.1 now supports:

▸ **Publish and subscribe.**

▸ **Enhanced import/export.** Fair Witness now can import data from most databases in tab-delimited form. If the original database contains calculation fields, that function will be retained by Fair Witness' calculation columns, the company said.

▸ **Improved Undo.** The Undo command now works on a wider variety of actions such as Paste and Delete as well as formula and column modifications.

▸ **Improved formula handling.** Calculation functions, such as sum, average, count or growth rate, now can be performed across columns.

Users can upgrade to Version 1.1 for free. A version that will support Apple events is expected in the first quarter of 1992, the company said.

Chena Software Inc. is at 905 Harrison St., Allentown, Pa. 18103. Phone (215) 770-1210 or (800) 245-4577; fax (215) 770-1043. □

Calendar Object offers Serius timesavings

Salt Lake City — Serius Corp. last week announced a programming object that promises to be a timesaver for developers looking to integrate calendars into their applications.

To ship next month, the $59.95 Calendar Object is designed for use with the Serius Programmer and Serius Developer object-oriented programming systems (OOPS). Serius developers can use the new object to outfit their applications with calendars as well as customize the font format and size, layout and color scheme.

According to Serius, developers can use the System 7-compatible Calendar Object in conjunction with its AppEvent Object, a programming object that adds support for Apple events (see MacWEEK, Oct. 15), to create calendar applications that can communicate over a network. For example, an appointment-calendar application could use both objects to compare the schedules of networked users to determine available meeting times.

Serius Corp. is at 1981 East 4800 South, Salt Lake City, Utah 84117. Phone (801) 272-7788; fax (801) 277-2440. □

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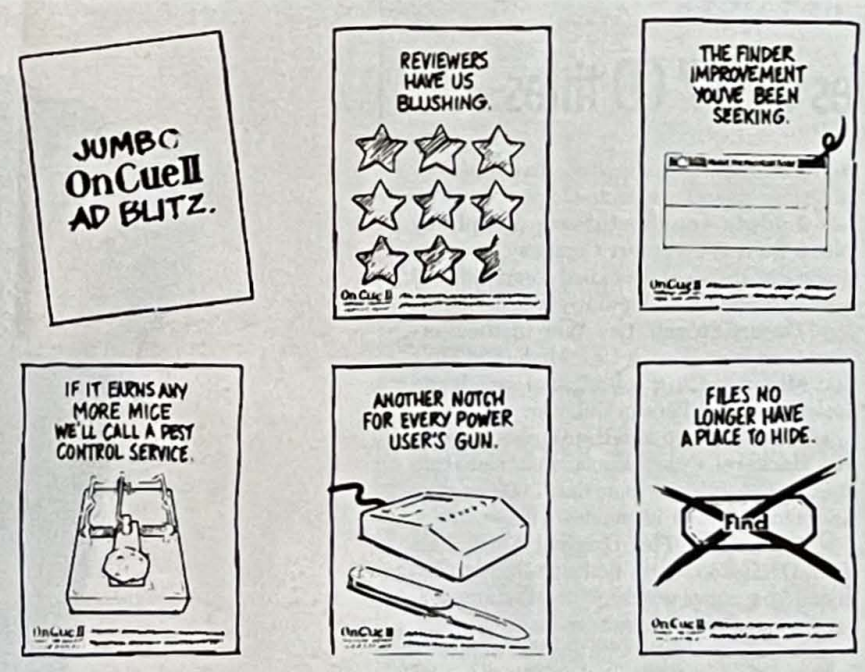
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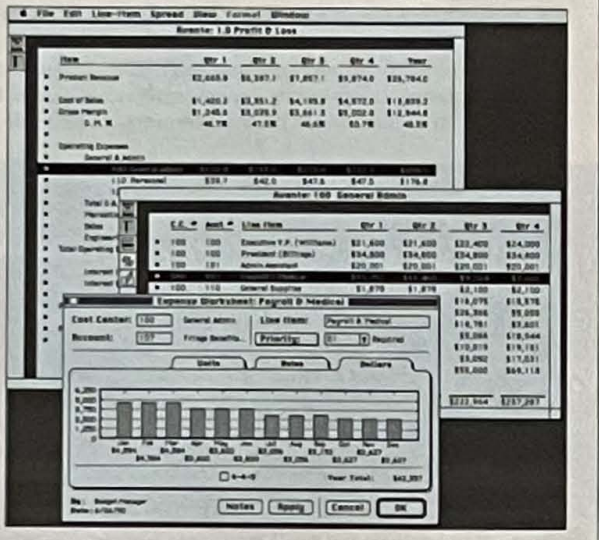
Pillar aims FYPlan at breaking spreadsheet consolidation logjam

By Rochelle Garner

Foster City, Calif. — Pillar Corp. used last month's conference on Managing Apple Computers in Information Systems (MacIS) to show off FYPlan, big-ticket budget-management software for big-ticket budgets.

Aimed at companies with revenues of up to $450 million a year, Pillar's multi-user software is available now for $20,000 for one server and four clients, then $500 for each additional client. Apple is the company's single largest investor, according to Ken Ross, Pillar president and CEO.



With FYPlan, managers click on any row to get underlying data. Also, line-item expenses can be calculated by multiplying units by rates or by dollars alone.

With FYPlan, a budget manager can assign budget access and information to an unlimited number of users, who return their information for easy consolidation. Because it is based on a database, users can easily sort, select, graph and report on information.

"People get frustrated with spreadsheets because of the complexity of file linking and macros when consolidating information from lots of users," Ross said. "I think of this as a new generation of microcomputer application that replaces minicomputer software."

The program lets budget managers configure server software setup, establishing which users have Modify or View access to different budgetary modules, such as Assets and Expenses, as well as access to accounts within those modules.

Users can fine-tune the program to fit their companies' structure and fiscal period.

Features include:

- **Line items.** Users can budget line items for Assets, Liability and Equity, Expenses and Revenues. Individual line items can be budgeted within groups, such as specific products within a product line. In addition, users can budget by units multiplied by rate or by dollars alone.
- **Report generation.** Within the program's profit-and-loss report format, users can sort by a variety of criteria — such as region, sales representative or cost center — rather than by cell. Clicking on a tool in the software's small tool palette will hide, sort and subtotal any column or sequence of columns. Columns can be rearranged simply by selecting and moving them from the top bar.

In addition, reports can be set up in outline view, then drilled down for greater detail.

- **Globals.** With Globals, managers can set up shared parameters, such as pricing schedule, eliminating macros for linking common information.
- **Import/export.** Managers can import and export information between FYPlan's sales data, for example, and their companies' general ledger files. Information can be saved as delimited ASCII text or as WKS files.

Pillar expects to offer client software for IBM PCs and compatibles in January. The software, expected to be priced comparably to the Mac client software, will share information with Pillar's Mac-based server.

Pillar Corp. is at 950 Tower Lane, Foster City, Calif. 94404. Phone (415) 349-6200; fax (415) 349-5515. □

Users report savings with budgeting software

At $20,000 for one server and four user copies, FYPlan is among the most expensive packages available for the Mac. What's more, the multi-user software appears to offer the greatest benefits when it is used by many users. Yet companies that bought into the software said they would repeat their decision.

About 60 managers use FYPlan at Frame Technology Corp. of San Jose, Calif., to perform yearly as well as rolling expense forecasts. "We have cost-center managers do their own budgets, vice presidents then consolidate the figures for their departments, and I consolidate all the vice presidents' plans," said Carol Morini, financial planning manager.

"We have no financial analysts on the staff, but we estimate we would need four to do this work if the cost centers did not. When you realize how many people you don't have to hire, you see the big savings."

Karl Dahlin, senior systems analyst at Raynet Corp. of Menlo Park, Calif., which has 50 users working on FYPlan, said the program is worth the price. "It's an expensive program, but time is expensive too," Dahlin said. "By the time you collect and consolidate information from a bunch of spreadsheet templates, you spend more money in terms of time than you would on FYPlan, which automatically consolidates and distributes information for you."

Another company, Komag Inc. of Milpitas, Calif., now relies on the program for accurate budget forecasts. "Any budgeting process is naturally an interactive one," said Steven Johnson, president and CEO of the manufacturer of sputtered thin-film media. "We are in a constant cycle where we make a plan, review it, correct the plan and review it again. Because of the number of spreadsheets we were linking [before FYPlan], it was virtually impossible to change anything, even if we made a mistake. Under those circumstances, people resist making changes. That's not smart, but it does happen.

"FYPlan lets us be extremely flexible, and it expedites the process, both in consolidating and in putting in new data," said Johnson. "Most important, people can spend their time thinking about why they are putting in the data they are, rather than in the mechanics of adding the numbers."

At Frame, "FYPlan has made things considerably easier for the finance group," Morini said. "You can move columns, rows, show only the numbers you want shown, and it never affects the data inherent in the database. The thing I like best is you can click on the line and see the detail behind it. That makes it very easy to find which numbers are suspicious or out of line. Once you get into the mind-set that the program is a database and not a spreadsheet, you see how powerful it really is," Morini said.

— By Rochelle Garner

NEC bundles up CD drives with 7 CD titles

By Matthew Rothenberg

Wood Dale, Ill. — NEC Technologies Inc. is making a bundle in CD-ROM, shipping its CD drives for the Mac with seven discs of interactive software.

CD Gallery is available now in versions that include either NEC's portable CDR-36 or higher-performance CDR-73 CD-ROM drive. Each package also ships with a SCSI interface and cable; two Koss SA/30 amplified, battery-driven stereo speakers; and the multimedia discs.

The CD-ROMs included are:

- **The New Grolier Electronic Encyclopedia** from Grolier Inc., containing more than 33,000 articles, 1,500 color illustrations and maps, and a variety of digitized sounds.
- **The Software Toolworks World Atlas** from The Software Toolworks Inc., which includes more than 240 color maps and an international database of geographical information and comparative data.
- **The Time Table of History,** also from Software Toolworks, a multimedia chronology of history, science and technology.
- **Ludwig von Beethoven: Symphony No. 9** from The Voyager Company, an interactive disc that uses the famed composition to educate users about Beethoven and his music.
- **Desert Storm: The War in the Persian Gulf** from Warner New Media and Time Inc. Magazine Co., a collection of sounds and images from the Persian Gulf war.
- **Cosmic Osmo and the Worlds Beyond the Mackerel,** Cyan's popular multimedia children's game featuring more than 1,000 graphics and animations and 40 minutes of music.
- **Cinderella: The Original Fairy Tale** from Discis Knowledge Research Inc., an illustrated "interactive storybook" that features digital music and narration and pronunciation.

CD Gallery is $699 with the CDR-36 CD-ROM reader and $999 with the CDR-73 model.

NEC Technologies Inc. is at 1255 Michael Drive, Wood Dale, Ill. 60191. Phone (708) 860-9500. □

Recycle Your Electronics.

BBN Software tends stats with Catalyst, RS/Graph

Manufacturing engineers get help with experiments

By Mitch Ratcliffe

Cambridge, Mass. — BBN Software Products has announced two applications for the statistical-at-heart.

▶ **BBN/Catalyst.** Available now for $2,495, BBN/Catalyst is aimed at manufacturing engineers using statistical analysis to design experiments that determine optimum yields. BBN, a division of Bolt Beranek and Newman Inc., acquired the application in September when it purchased the assets of Catalyst Inc. (see MacWEEK, June 25).

Engineers can use the program to perform design of experiment (DOE) testing. Its statistical process is similar to the Toguchi method, according to the company.

Catalyst will design the experiment based on manufacturing variables that users input, such as tensile strength, heat or time. Using experiment results, the program will generate a model of the process and its outputs, and display the various interactions of factors and responses as a series of 2-D graphs.

Because Catalyst screens are linked, engineers can change the variables simply by dragging a line in a plot. Output also can be copied into spreadsheet, text or paint documents.

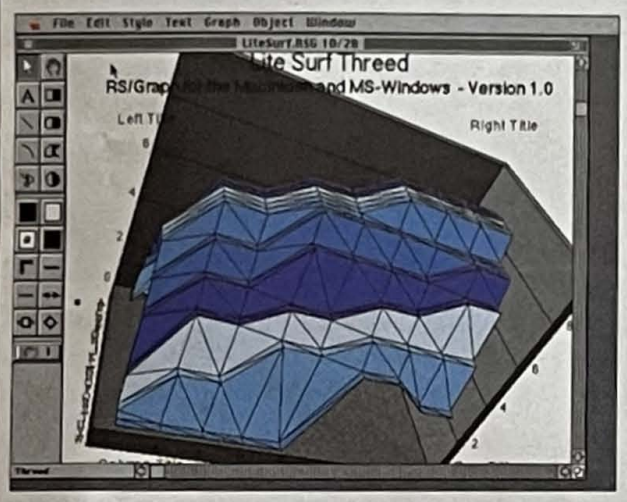
Catalyst is available for $1,995 until Dec. 18.

▶ **RS/Graph.** Due in early 1992 for about $800, RS/Graph will let users import X Window statistics-based presentation graphics to their Macintoshes as PICT files, with the underlying statistical information intact.

As a result, users will be able to manipulate color boxplots, x-y plots, contour charts or other graphic representations of statistical information but not the statistics themselves. Views can be rotated and resized by clicking and dragging. Users also can annotate images with text or graphic elements.

The application will use the Macintosh Communications Toolbox to support connections to the X Window client running BBN's RS Series data-analysis software.

BBN Software Products is at 150 Cambridge Park Drive, Cambridge, Mass. 02140. Phone (617) 873-5000; fax (617) 873-8199. □



BBN Software Products' RS/Graph, due in the second quarter of next year, will allow Mac users to download and manipulate views of X Window presentation graphics, including boxplots, x-y plots and contour charts.

Prentice Hall offers VersaCAD training guide

By Rochelle Garner

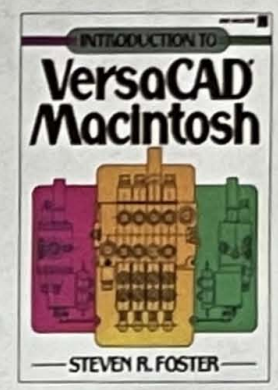
Englewood Cliffs, N.J. — Users wanting to bone up on Computervision Inc.'s VersaCAD/Macintosh Edition now have an inexpensive source of training with a new book from Prentice Hall Publishing.

Priced at $42.67, "Introduction to VersaCAD Macintosh" by Steven R. Foster comes with a practice and tutorial disk and offers 489 pages of exercises and examples. Aimed at both mechanical engineers and architects, the book discusses topics such as geometric construction, isometric perspective, cross-hatching, dimensioning and auxiliary views.

As an extra feature, the price includes a quarterly newsletter covering tips and additional exercises, as well as an electronic-mail address for the Internet. Users can electronically order examination copies, request ordering information or ask technical questions, which Prentice Hall said it will forward to the author.

Bookstores pay $30 per copy.

Prentice Hall Publishing, a division of Simon & Schuster Higher Education, is at 113 Sylvan Ave., Route 9W, Englewood Cliffs, N.J. 07632. Phone (201) 592-2000; fax (800) 445-6991. □



Prentice Hall's "Introduction to VersaCAD Macintosh" by Steven R. Foster comes with a practice disk and a quarterly newsletter of tips and techniques. Buyers also receive an electronic-mail address for the Internet for ordering additional information.

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HANDisc covers multimedia production

By Elinor Craig

Sunnyvale, Calif. — Looking for a one-stop source for tutorials and software to create multimedia presentations? CD Technology Inc. is now offering an electronic handbook on CD-ROM that provides just that.

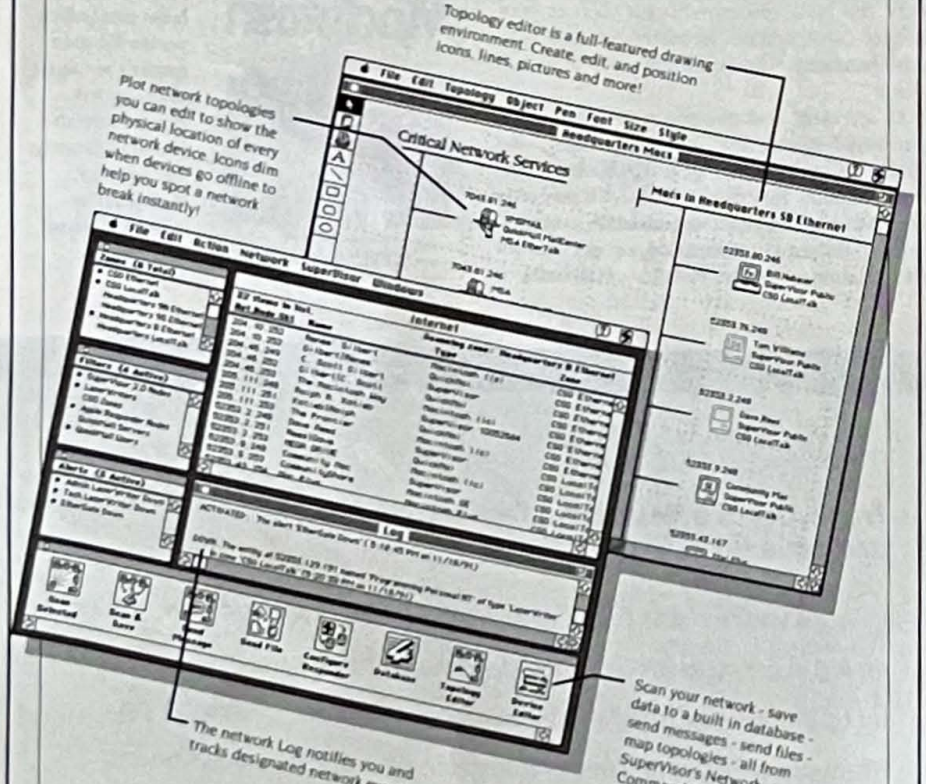
Available now for $99, MultiMedia HANDisc provides a library of multimedia tutorials; a directory of multimedia products, reference materials, associations and services; 100 software demonstrations; a glossary of more than 1,000 multimedia definitions; and artistic content such as backgrounds, photos, animations and music.

It also includes QuickTime movies; QuickScreen, for capturing screens in QuickTime movie format; CD Audio DJ, an audio CD player usable from within MacroMind-Paracomp Inc.'s Director and FilmMaker; System 7.0; HyperCard 2.1; ResEdit; and Typebook.

The next $99 HANDisc product, expected in the second quarter of next year, will cover desktop publishing. Users who buy the company's $695 CD Porta-Drive will receive MultiMedia HANDisc free.

CD Technology Inc. is at 766 San Aleso Ave., Sunnyvale, Calif. 94086. Phone (408) 752-8500; fax (408) 752-8501. □

THE STANDARD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News BRIEFS

Microsoft offers Project trade-in

Redmond, Wash. — Microsoft Corp. is trying to win users for Microsoft Project by offering low-cost trade-ins to owners of competitive products.

Instead of paying the $695 suggested retail, owners of Claris MacProject and other Mac project-management applications can get Microsoft Project for $199, until Jan. 31, 1992.

Microsoft Corp. is at 1 Microsoft Way, Redmond, Wash. 98052. Phone (206) 882-8080; fax (206) 883-8101.

Revenaugh opens book on objects

Bakersfield, Calif. — Revenaugh Resource Group last week announced a new technology to help developers manage objects. OpenBook, based on Symantec Corp.'s THINK Pascal, provides libraries of objects to create a platform-independent user interface.

The system, now being beta tested, has not been priced, but developers can license it for inclusion in their applications. It offers a set of objects, as well as tools for users to manage them. Tools are designed to be transparent to the user, the company said.

Revenaugh Resource Group is at 4501 Trumbull Drive, Bakersfield, Calif. 93311-1229. Phone (805) 665-2312.

Seminars focus on Claris software

Ormond Beach, Fla. — Florida Marketing International Inc. next month will offer Claris MacAcademy, two-day training seminars on Claris Corp. software.

To be held in Boston; Washington, D.C.; Los Angeles; San Francisco; and Anaheim, Calif., each $279 seminar features two days of training and a workbook. Anyone registering two weeks before a class also will receive a copy of MacDraw II and the $147 MacAcademy Claris Resolve Video Training Library.

During each two-day period, users can attend any beginning and advanced class on MacWrite II, Resolve, MacDraw Pro, FileMaker Pro and ClarisWorks, as well as beginning classes on the Mac, MacProject II and creating custom software with HyperCard.

Florida Marketing International Inc. is at 477 S. Nova Road, Ormond Beach, Fla. 32174. Phone (904) 677-1918; fax (904) 677-6717.

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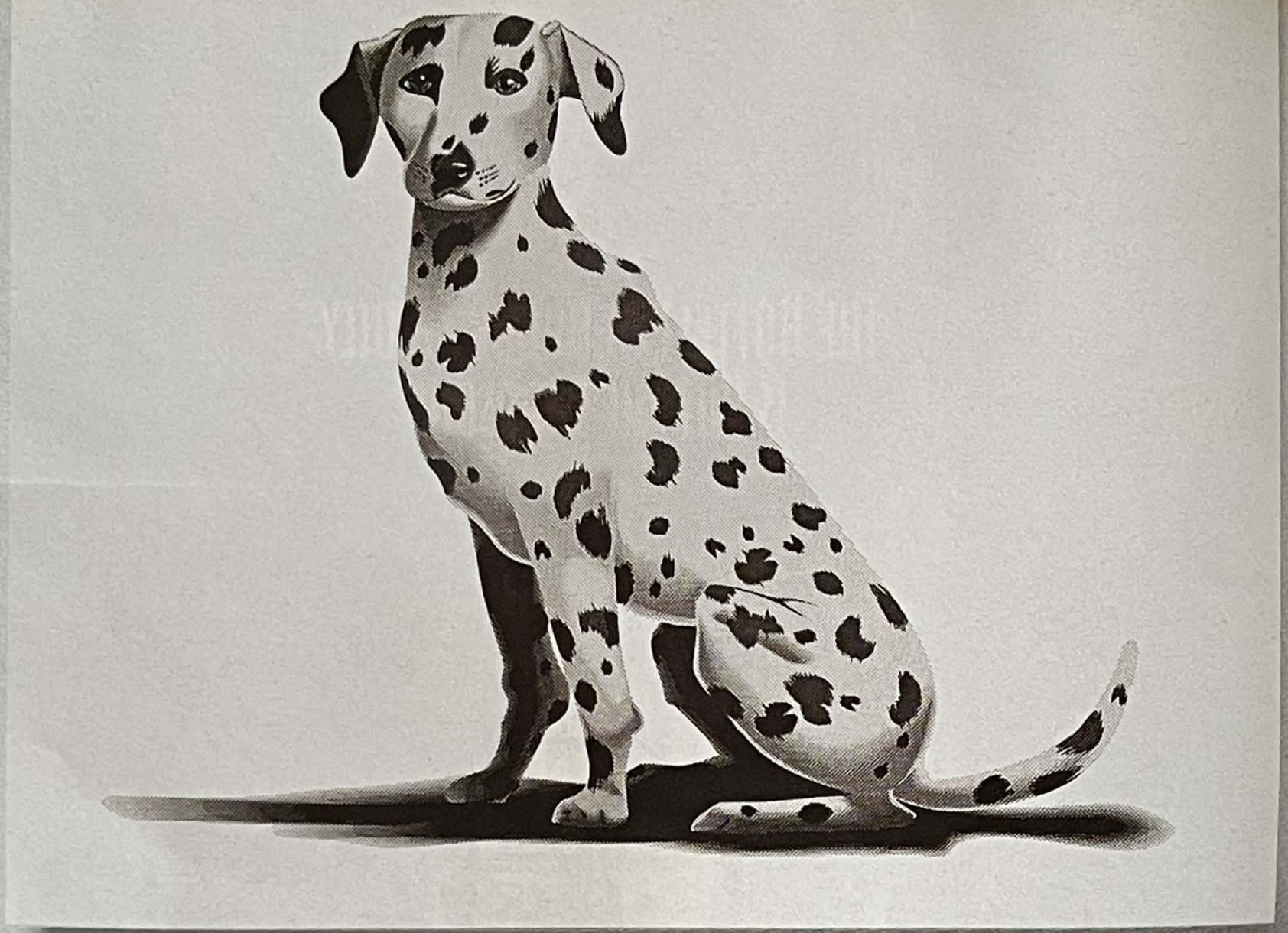

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Gateways

- Networking
- Communications

Microsoft scheme challenges DAM

ODBC to be in use by end of 1992

By Margie Wylie

San Francisco — After years of evangelizing its approach to host database access, Apple is facing competition for the mind share it has gained in the MIS world and with applications developers.

Microsoft Corp. earlier this month announced a database access technology that, much like Apple's System 7-based Data Access Manager (DAM) or its Data Access Language (DAL), will bring applications in touch with many different kinds of host systems through one interface (see MacWEEK, Nov. 19).

Open Database Connectivity (ODBC), as Microsoft calls the technology, will allow Windows and Mac applications that call on its application programming interface to access a variety of databases through drivers adapted to run under the scheme.

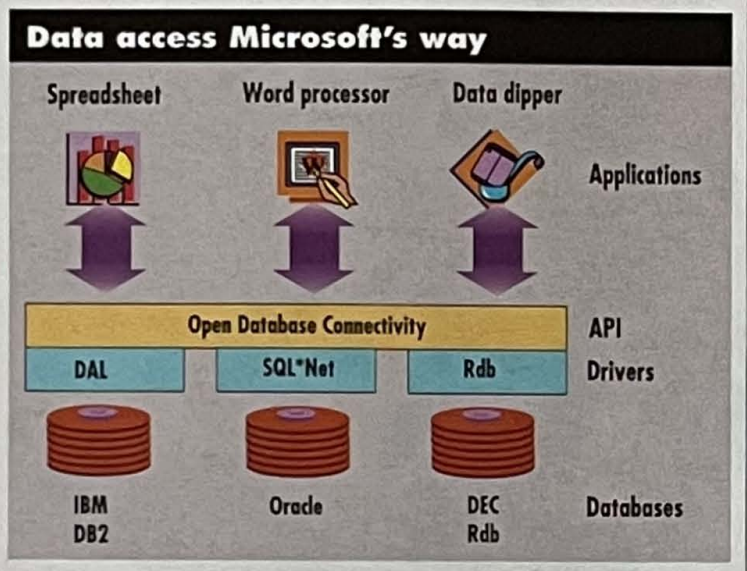
ODBC will be implemented in the company's Mac applications by the end of 1992, starting with Excel, according to Lowell Tuttman, program manager for ODBC. The access technology also will be available to other applications developers through a programmer's tool kit.

Tuttman said Microsoft will not actively evangelize ODBC vs. DAM or DAL to Mac developers. In fact, DAL will be ODBC's first driver. However, he is quick to point out the advantages Microsoft sees in developers doing access its way.

"The difference between this and DAL is that DAL requires servers on the host to do translation. [In ODBC] the drivers do the translation at the workstation," he said. DAM, on the other hand, doesn't provide any translation for proprietary drivers implemented under its structure.

Database developers, such as Ingres Corp. or Oracle Corp., will be responsible for writing drivers that translate between ODBC and their programs, the same as companies that create DAL server adapters.

See ODBC, Page 25



Windows client, database drivers making inroads for DAL, DAM

By Vernon Keenan

San Francisco — Microsoft Corp. was still polishing the pitch for its database access scheme when Apple's partners came to bat with new support for the company's two existing host database access schemes earlier this month.

Blyth Software Inc. recently announced it is shipping software that lets DOS and Windows users query any database running a Data Access Language (DAL) server from Apple. In a related announcement, Fairfield Software Inc. said it will adapt several companies' proprietary database drivers to run under System 7's Data Access Manager (DAM) and bundle them with its data dipper product.

Blyth's $2,000 Data Access Language Developer's Tool Kit lets DOS and Windows programmers build Windows-based programs that access host databases through DAL, Apple's SQL variant.

No high-profile DOS or Windows software vendor has so far announced DAL support (see story, this page), and Blyth's Omnis Connect for DAL, due early next year for $300 per single-user copy, will be among the first applications to use DAL under Windows. Omnis Connect adds support for Apple's SQL variant to Blyth's Omnis databases (which run under both Windows and the Mac).

Corporate developers, however, are ready to take the plunge.

"We're using Omnis 5 to develop applications for both platforms simultaneously, using DAL as the data infrastructure," said Mark Showers, senior systems specialist at Monsanto Agricultural Co. of St. Louis.

In addition to a DAL-compliant Windows application, users will need the Blyth's $200 DAL client, implemented as a Dynamic Link Library (DDL), Windows' equivalent of a system extension. DAL clients are also available in End User Packs, which

See Database, Page 24

Technology Works checks off inventory-management app

By Margie Wylie

Austin, Texas — Technology Works Inc. last week shipped GraceLAN Asset Manager, a program designed to automate the drudgery of network bean counting.

The $595 asset-management program allows network managers to keep an inventory of network hardware, software and other data, and to draw reports from it.

Technology Works' GraceLAN Asset Manager helps managers get a handle on network inventory and accounting issues.

Beta-tester Cyle Dibble, coordinator of user services for Indianapolis-based printer Shepard Poorman Communications Corp., uses the software to stay on top of the 50 Macs in his charge. He uses the program to generate yearly physical inventory reports, do software audits, report on warranty and repair histories, and track depreciation and charge-back costs.

"At the end of the year, it just spits out a report that I take to accounting," Dibble said.

Dibble imports the Mac configuration data he automatically gathers with the Technology Works' GraceLAN Network Manager into the Asset Manager. "It's basically the lazy man's network inventory tool," he said. "I just click a button and import all my configuration files [from Network Manager]."

Network Manager doesn't have its own reporting capabilities, however. TechWorks has said it will include reporting free in a future version.

See Asset Manager, Page 24

Retix partnerships to get message across X.400 E-mail

By Nathalie Welch

Santa Monica, Calif. — Retix last month announced that it has banded together with a number of leading electronic-messaging products and services vendors to solve the dilemma of directory synchronization on X.400 networks.

Called Directory Exchange (DX), the technology, which is based on X.400 protocols and addressing schemes, will automatically transfer and update electronic-mail directory information on public or private X.400 systems that use the company's Open Server X.400 gateway architecture.

"Directory Exchange is an inter-

See Retix, Page 25

Minding the net with Neon analyzer

By Margie Wylie

Lafayette, Calif. — A new Ethernet network troubleshooting tool now shipping from Neon Software Inc. could save network managers from "thinking in hexidecimal," according to one beta tester.

Available now, the $595 NetMinder 2.0 is a software-only network protocol analyzer that offers scriptlike, executable configuration files, on-the-fly capture and analysis, and two new utilities.

Something akin to an X-ray machine for networks, packet analyzers help managers discover what ails their systems by capturing and decoding device communications.

Joe Dallatore, senior network consultant for Marlton, N.J.-based systems integrator Computer Consulting Corp. and beta tester for NetMinder 2.0, uses the software to troubleshoot a Wall Street investment bank's network.

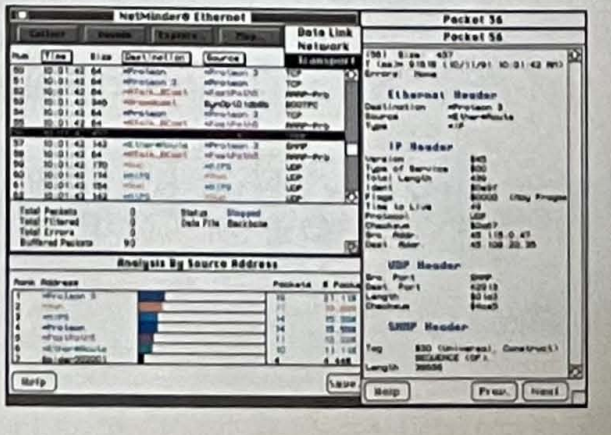
"I've found [Version 2.0] very easy to give to users who aren't Sniffer heads," he said, referring to a DOS-based packet analyzer from NetWork General Corp.

Dallatore uses Version 2.0's configuration files to help users help themselves.

"I leave the application and the configuration file on a Mac, and all users have to do is click on the document the next time they experience [a persistent] problem," he said. "I look at the file any time I want." Configuration files consist of a script of triggers, filters and reports that are set in motion when the file is opened.

NetMinder 2.0 can capture and analyze packets on the fly, as

See NetMinder, Page 25



NetMinder 2.0, a software-only packet analyzer from Neon, offers on-the-fly decoding, protocol explanations and launchable scripts.

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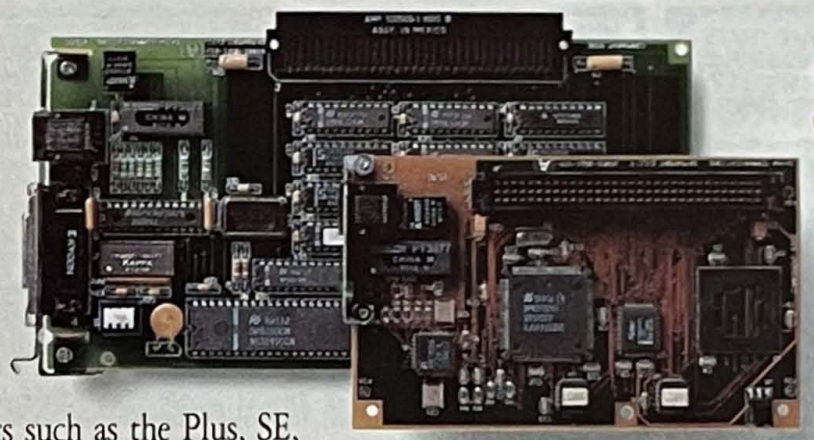

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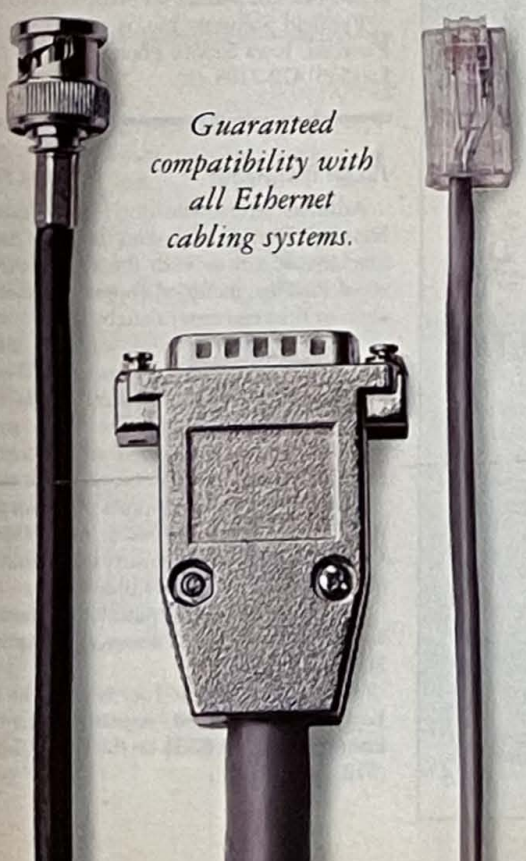

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Mail for PC Networks gets update

By Nathalie Welch

Redmond, Wash. — Microsoft Corp.'s recently announced upgrade to its Mail for PC Networks sports a list of new features also accessible to Mac users.

Due to ship in the second quarter of 1992, the IBM PC or compatible-based Microsoft Mail 3.0 for PC Networks server is priced at $695. It includes a single client license for any supported platform — Mac, DOS or Windows. Additional workstation software licenses range in price from $395 for five users to $22,500 for 500 users.

Microsoft Mail 3.0 for PC Networks includes global directory synchronization, which automatically updates all Microsoft Mail directories on a LAN, including those on Microsoft's Mac-based server, Microsoft Mail for AppleTalk Networks.

The synchronization process also incorporates a number of fault-tolerance measures, to ensure consistent directory updates. Template information, personal address books and foreign system directories can be globally synchronized.

Mac clients attached to Microsoft Mail 3.0 for PC Networks, however, still lack access to a global address book, a single list that can contain more than 500,000 user names, which resides at the server level. This feature has been available to Mac clients attached to Microsoft Mail for AppleTalk Networks since Version 2.0.

Microsoft released the Mac client for Microsoft Mail for PC Networks last month (see MacWEEK, Nov. 12). Selling in five-packs for $395, the Mac client supports resizable windows, customizable fonts and multiple attachments.

Mac users on a Mail for AppleTalk network can access the Intel-based Mail for PC Networks server through the $295 Microsoft Mail Connection gateway.

An interim upgrade to Microsoft Mail 3.0 for AppleTalk Networks is under development, said Kathleen Shonfelder, Microsoft Mail product manager. Price and ship date are undetermined.

Microsoft Corp. is at 1 Microsoft Way, Redmond, Wash. 98052-6399. Phone (206) 882-8080; fax (206) 883-8101. □

The Adventures of Starship InterCon

Stardate 257.6ish.
While exploring Planet X we have encountered an alien technology of startling sophistication.
CAPTAIN KURT, A PECULIAR FORMAT HAS APPEARED IN OUR X WINDOWS.
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I'M GETTING SOMETHING FROM PLANET X. THEY'RE INVITING US TO RUN THEIR SYSTEM FROM OUR COMPUTER!
BUT THAT'S IMPOSSIBLE, ISN'T IT? MR. SPECK?
WHA--? OH, PERHAPS NOT, SIR. I'VE IDENTIFIED THE PLANET X SYSTEM AS A MACINTOSH, A COMPUTER QUITE POPULAR ON TWENTIETH-CENTURY EARTH.
THE SCIENTISTS OF THAT ERA NEVER FOUND THE KEY TO MAC COMPATIBILITY. THEIR FLAWED ATTEMPTS, SUCH AS XGATOR AND TIMBUKTU LED TO PROLIFERATION OF REDUNDANT WORK STATIONS AND EVENTUALLY GLOBAL DISASTER
BUT THE PEOPLE OF PLANET X SEEM TO HAVE DEVELOPED THAT CAPACITY.
-- AND IN COLOR, TOO.
BUT FOUR HUNDRED YEARS TOO LATE.
OR IS IT?

InterCon introduces Planet X

an X Window System client for the Apple Macintosh

The Prime Directive of Planet X is to create a window on any X display that is identical to the Mac screen in operation and appearance. Suns, Digitals, IBM workstations and other X window systems can now remotely operate any Macintosh without leaving their X desktop, ***even in color!***

With their own mouse and keyboard, which can be mapped at an instant, an X Window system can remotely operate a Mac and access all the great applications and peripherals associated with it. Use Planet X for interactive user support or to share a common document. Cut and paste between the Mac and the X server or vise versa. Use Excel, display Persuasion presentations or even run InterCon's WatchTower software, an SNMP Network Management station on the Mac !!! ***The best of all worlds.***

As a control panel device, Planet X is completely transparent to the user once a session is started. Full support for LocalTalk workstations is available once a LocalTalk/IP gateway is in use on the network, such as Shiva's FastPath V or Compatible Systems' Ether•Route/TCP. A session can be started from either the Mac or the X Window server, and Planet X can be set to automatically start a session at Macintosh boot time. Planet X has a password security system to grant access privileges to the Mac. ***All at a down to Earth price of only $295.00.***

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Database

From Page 22

cost from $5,000 for 100 users to $25,000 for unlimited users.

Currently, the client works with 3270 and asynchronous connections; TCP/IP support is planned for a future release. Blyth also plans to port DAL clients to OS/2 and Unix.

For those who need access to databases not supported by DAL, who don't want to incur the overhead of a DAL server or who want to make simple queries to a wide variety of host databases, Fairfield Software has announced it will adapt several companies' proprietary database drivers to run under DAM and bundle them with its $460 ClearAccess ad hoc querying software for the Mac. The extensions will work with any DAM-compatible application but will not be available separately.

Data access extensions for TechGnosis Inc.'s SequeLink, Oracle Corp.'s SQL*Net, Sybase Inc.'s Open Client and Great Plains Software accounting systems will ship bundled with ClearAccess by year-end, according to the company. Using the extensions and System 7's DAM, ClearAccess will be able to issue queries through a special preformulated script, or Query Document.

Fairfield said it will release a version of ClearAccess for Windows, using DAL, by year-end.

Blyth Software Inc. is at 1065 E. Hillsdale Blvd., Suite 300, Foster City, Calif. 94404. Phone (415) 571-0222; fax (415) 571-1132.

Fairfield Software Inc. is at 200 W. Lowe, Fairfield, Iowa 52556. Phone (515) 472-7077; fax (515) 472-7198. □

Asset Manager

From Page 22

Administrators who don't use GraceLAN Network Manager can scan the same data one machine at a time with the GraceLAN Personal Profiler, included free with Asset Manager, or they can enter data by hand.

Besides hardware and software information, Asset Manager also includes databases for vendor contacts and internal contacts. The vendor contacts, hardware and software databases come preloaded with information for common Mac products and vendors.

The program also supports mail merges and will print labels. "I don't lose Macs now because it spits out inventory labels that I stick on all my equipment," Dibble said.

The System 7.0-compatible program works with System 6.0.5 and above and requires 2.5 Mbytes of RAM.

Technology Works Inc. is at 4030 Braker Lane W., Suite 350, Austin, Texas 78759. Phone (512) 794-8533 or (800) 688-7466; fax (512) 794-8520. □

Retix

From Page 22

im step between nothing, which we have now, and X.500, which is nirvana," said David Knight, director of market development at Retix. "We purposefully made DX as a clean and clear step to X.500 (the emerging international standard for distributed directory services)."

Right now, users who want to send E-mail to recipients not on their LAN have no way to look up addresses locally. They first get an E-mail address through a separate medium, such as by telephone.

The DX Agent will reside in an Open Server-based X.400 gateway to lets users access, through their messaging system, an electronic "white pages" residing on a central hub or DX Server (DXS). The hub will store an organization's complete directory and distribute directory updates to other Retix-based X.400 gateways across the enterprise.

The agent on the sender's end translates the addressing information native to the E-mail package being used into an X.400 O/R (originator/recipient) name and transmits it to the DX server. The message travels through the receiver's gateway and appears in the naming scheme common to the E-mail package at the receiver's end.

Retix will add the base code for Directory Exchange to its X.400 Gateways Developer's Kit by mid-1992. The price of the kit, $15,000, won't be affected, said Knight. Gateways with DX built in will probably be priced between $1,000 and $2,000. Existing gateways for the Mac will add Directory Exchange technology as an upgrade starting with cc:Mail and Microsoft Mail by mid-1992 and eventually CE Software Inc.'s QuickMail.

Vendors who have announced support for DX under the Retix partnership program include Banyan Systems Inc., Beyond Inc., cc:Mail Inc., CE Software, Enable Software Inc., Microsoft Corp., Phoenix Systems Inc., StarNine Technologies Inc., WordPerfect Corp., Digital Equipment Corp., Pacific Bell Connection, Soft-Switch Inc. and Sprint International.

Retix is at 2644 30th St., Santa Monica, Calif. 90405-3009. Phone (213) 399-1611; fax (213) 458-2685. □

NetMinder

From Page 22

opposed to the previous version, which required users to complete capturing packets before they began decoding them. The network neophyte can get help sleuthing out snafus with on-line context-sensitive help for packets and protocols.

The program ships with two new utilities: One automatically surveys a network and associates devices' Chooser names with their network addresses, a manual function in the past; a second lets users blindly capture but not analyze packets.

Like other software-only analyzers, such as The AG Group's EtherPeek, NetMinder costs only a fraction of what DOS-based analyzers go for. "It gives me 90 percent of the functionality of a Sniffer at 5 percent of the price," Dallatore said.

Version 2.0 also decodes SNMP (Simple Network Management Protocol); AppleTalk Update-based Routing Protocol (AURP) — a new standard protocol for AppleTalk connections over wide-area links; and new TCP/IP protocols, including those used by Banyan Corp.'s VINES.

NetMinder 2.0 works with several new Ethernet cards from makers Dayna Communications Inc., Technology Works Inc., Sonic Systems Corp. and Tri-Data Systems Inc.

Those who buy NetMinder Ethernet after Oct. 9 get a free upgrade; others pay $75.

Neon Software Inc. is at 1009 Oak Hill Road, Suite 203, Lafayette, Calif. 94549. Phone (415) 283-9771; fax (415) 283-6507. □

ODBC

From Page 22

ODBC applications also will be more easily moved from Macintosh to Windows or vice versa, Tuttman said. Although it hasn't attempted to export DAM to Windows, Apple recently added a Windows client for its many existing DAL servers (see story, Page 22). Still, no major Windows developers have embraced it.

Based on the call-level interface (CLI) standard, ODBC will enjoy wider and more immediate support than DAL or DAM, Tuttman said. "It's different than a vendor coming out and saying, 'Here's technology, implement it,' " he said.

The CLI specification was produced by a consortium of database companies called Sequel Access Group. Many influential database makers, including Oracle, Ingres, Sybase Inc. and Informix Software Inc., have committed to creating ODBC drivers, Tuttman said.

For now, however, the trump card belongs to Apple, said Randy Heitter, product manager for DAL. "We have the products now, and they work now." □

Application
MacWrite II
Claris Resolve
FileMaker Pro
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Farallon offers new hubs, StarCommand

More graphical info for network admin

By Mitch Ratcliffe

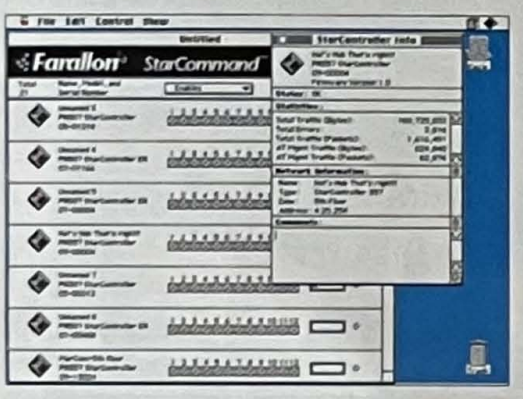
Emeryville, Calif. — Farallon Computing Inc. last month expanded its line of PhoneNET StarController hubs and delivered an improved management application for the devices.

Available are the $1,495 PN357 12-port and $1,895 PN377 24-port PhoneNET StarController intelligent repeaters for LocalTalk networks.

Both hubs ship with Farallon's StarCommand 3.0, a new version of the StarController management software that allows administrators to monitor and configure multiple hubs over any AppleTalk link. Previous versions worked with only one hub at a time and over only local connections.

The software also now provides more network information in a graphical environment, including Mac and peripheral device Chooser names, traffic statistics, and error reports for each StarController.

"The StarCommand upgrade has provided us a lot more useful information for pinpointing errors," said Teri Harris, staff specialist who manages six Ethernet StarControllers with the new software at Associated Groceries Inc. in Seattle. "It is especially useful because I can click on an individual device to see where and when the network load is heaviest."



New StarCommand 3.0 software from Farallon Computing gives network managers more information about network traffic.

The new models, like their predecessors, can isolate errors on the network by shutting off a port. They also will be able to plug into Farallon's upcoming rack, which will centralize management and storage for all StarControllers, including the previous series 300 and 500.

StarCommand upgrades are free to users who purchased StarControllers after Oct. 1; others pay $25.

Farallon Computing Inc. is at 2000 Powell St., Suite 600, Emeryville, Calif. 94608. Phone (510) 596-9100; fax (510) 596-9020. □

Webster's Multiport Gateway gets speed boost, SNMP MIB 2 support

By Mitch Ratcliffe

San Jose, Calif. — Faster router performance through hardware and software upgrades is Webster Computing Corp.'s motto this month for better network living.

Webster announced that it will ship an optimized version of its MultiPort Gateway, a multiport LocalTalk-to-Ethernet router and TCP/IP front end.

Eliminating wait states in the device's memory has increased performance by 25 percent.

A software upgrade that will henceforth be bundled with the MultiPort adds SNMP (Simple Network Management Protocol) MIB 2 capabilities.

MIBs (Management Information Bases) define what information SNMP-based monitors can retrieve from a device. They also define what factors a monitor can control, such as turning a port on or off. The MIB 2 is an Internet Engineering Task Force specification that increases the breadth of the device's reports to SNMP-based network-management applications, called monitors.

The MultiPort includes support for SNMP MIB 1 and Apple's AppleTalk MIB (see MacWEEK, Sept. 24).

Both upgrades are free to current MultiPort owners, though a Webster spokesperson said the hardware upgrade may require the unit be returned to the company.

Webster Computer Corp. is at 2108 O'Toole Ave., Suite J, San Jose, Calif. 95131. Phone (408) 954-8054; fax (408) 954-1832. □

Transceiver links 10BASE T, Ethernets

By Mitch Ratcliffe

Mountain View, Calif. — Allied Telesis Inc. this month will ship a transceiver and repeater that links Ethernet 10BASE 2 and 10BASE T networks.

The $375 AT-MR112T is a small, wall-mountable device that translates the signals between unshielded twisted-pair and thin coaxial cabling (or thin net).

With one 10BASE T and one thin net port, it could be used to connect a single 10BASE T Mac to a thin-net network. Or, it also could connect several Macs on a 10BASE T drop to a thin Ethernet network backbone.

The device also acts as a repeater and provides network status LED indicators for packet collisions and activity. It will automatically partition itself from the network to isolate nodes that generate collisions or out-of-standard packets. It reconnects when the problem abates.

Allied Telesis Inc. is at 575 E. Middlefield Road, Mountain View, Calif. 94043. Phone (415) 964-2771; fax (415) 964-0944. □

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GatorBox CS vs FastPath 5

Feature	GatorBox CS	FastPath 5
AppleTalk-Ethernet gateway	■	■
TCP/IP MacTCP and IPTalk support	■	■
DECnet Phase IV support	■	■
AppleTalk Phase 1 and 2 support	■	■
Thin, thick or 10BaseT Ethernet	■	■
Configuration, monitoring and upgrades from anywhere on network	■	■
SNMP and atalkad support	■	■
Seed, non-seed and soft-seed routing	■	
AppleTalk tunneling over IP backbone	■	
Remote gateway status via *telnet*	■	
Out-of-band hardware diagnostics	■	
Diagnostics written to UNIX *syslog* file	■	
2 MB memory	■	
Optional AppleShare-NFS file sharing	■	
Optional UNIX-AppleTalk printing	■	
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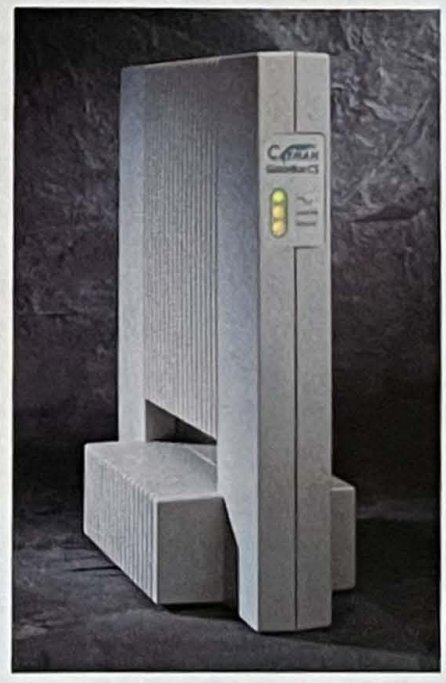

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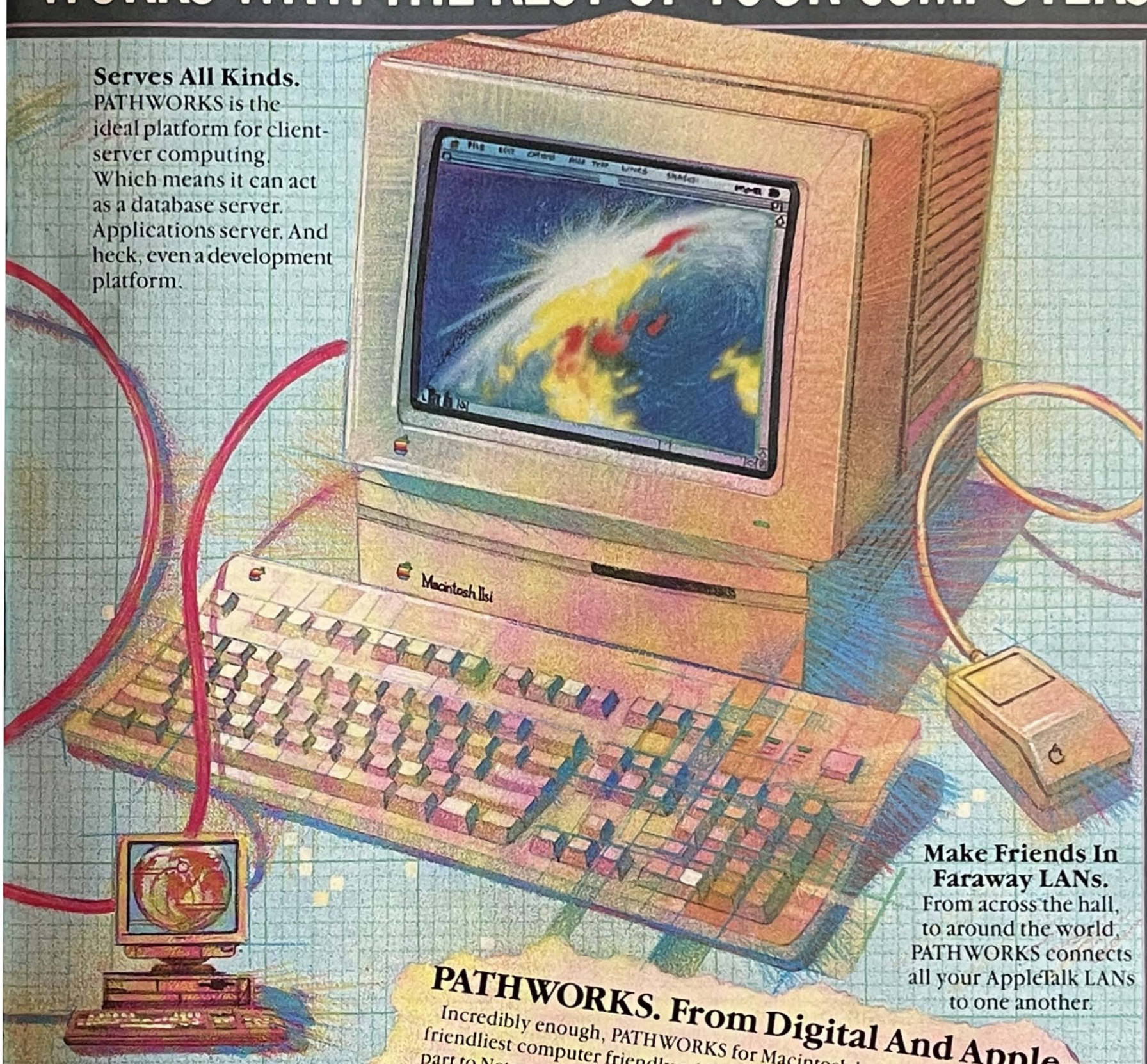

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COMPUTING FROM DIGITAL.

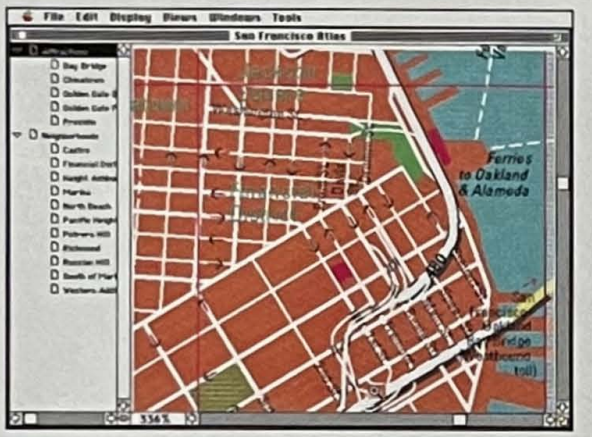
Adobe eyes interchange technology

Platforms will share fully formatted docs

By Carolyn Said

Mountain View, Calif. — Adobe Systems Inc. wants to make electronic-document interchange commonplace. The company is eyeing 1992 as its target for releasing PostScript-based technology that would allow users on different platforms to exchange fully formatted documents that can be edited.

Adobe has high hopes for the technology, tentatively dubbed Interchange PostScript and code-named Carousel. Adobe wants Interchange PostScript, which will support Macintosh, DOS/Windows and Unix operating systems, to become an industry standard, like PostScript. If this happens, Adobe said, Interchange PostScript will dramatically reduce the costs of publishing, distributing and archiving information — and save quite a few trees along the way.



Adobe's approach to interchangeable electronic documents will let publishers and users create an outline (left) hot-linked to corresponding parts of a document.

Industry observers agree that Interchange PostScript could have dramatic effects on how users communicate information but caution that the technology is unlikely to make the "paperless office" a reality.

"I see this initially as something a large company would adopt to send documents internally," said Judy Pirani, director of image communications services at BIS Strategic Decisions in Norwell, Mass.

Even at that level of use, Adobe said, the technology could have a significant effect. "When you take the documentation off a U.S. air carrier, the boat goes up 2 inches in the water," said Paul Gustafson, business manager of the information products group at Adobe.

See Adobe, Page 33

JPEG-compressed images can print to PS Level 2 with EPS method

By Neil McManus

Mountain View, Calif. — Storm Technology Inc. has developed a method of printing JPEG-compressed images directly to PostScript Level 2 printers, cutting output times by more than half.

Storm's technique encases a JPEG (Joint Photographic Experts Group)-compressed image inside an Encapsulated PostScript file. This allows compressed images to be scaled, cropped and rotated in graphics and layout programs and printed to Level 2 devices, where they are decompressed by the interpreter.

This method saves disk space because color and gray-scale TIFF files can be compressed with JPEG in ratios of up to 25-to-1. It also dramatically reduces print time because images remain compressed as they are transmitted to Level 2 printers.

Storm will bring its technology to market in the next version of PicturePress, due in the first quarter of 1992. PicturePress is a $199 image-compression application that is also available as a plug-in to Adobe Photoshop.

In addition, the next major upgrade to Adobe Photoshop 2.0, the $895 image-editing program, is expected to contain JPEG support and a similar method of saving JPEG-compressed images as EPS files, sources said.

Direct JPEG support will not be included in the first version of the PostScript Level 2 printer driver, which is being co-developed by Adobe and Apple and is due this spring, according to Rob Babcock, Adobe product manager.

"This is a good solution because it lets you work with JPEG images in any application that supports EPS," he said. "It makes transmitting documents to printers a hell of a lot faster."

But as JPEG compression ratios are raised, image quality degrades, said Donna Wheatley, director of market development at Dataproducts Corp. of Woodland Hills, Calif. "Application developers should have preset compression ratios in their programs that take the capabilities of printers into consideration," he said.

Storm Technology Inc. is at 1101 San Antonio Road, Suite 101, Mountain View, Calif. 94043. Phone (415) 691-1111; fax (415) 691-9825. □

MPEG standard aims to squeeze digital video into mainstream

TECH ANALYSIS

By Connie Guglielmo

San Francisco — JPEG is becoming what its creators hoped: an international compression standard for still images. And now the same organizations that brought JPEG into existence are finalizing MPEG, their proposed compression standard for moving images, aiming to make full-motion video as common as text and graphics, and allowing users to deliver video on standard storage media and across computer and telecommunications networks.

Like JPEG (Joint Photographic Experts Group), MPEG (Moving Picture Experts Group) is a joint-development project of two international standards groups, the Consultative Committee International Telegraph and Telephone and International Standards Organization.

MPEG's goal, according to research presented by Didier LeGall, chairman of the MPEG-Video committee and director of research at compression-chip developer C-Cube Microsystems Inc. in San Jose, Calif., is to define a standard for compressing full-motion (30-frames-per-second) color video and its associated audio.

The compression scheme would allow video and audio to be stored on current digital storage media, including CD-ROM, tape and digital audio tape, Winchester and optical drives, as well as transferred across ISDN (Integrated Services Digital Network) and LANs.

The committee, which began work on MPEG in 1988, produced a draft of the standard in September 1990, met again to refine it in April 1991 and is expected to finalize the standard in 1992. Companies that have contributed to the MPEG standard's development include C-Cube, AT&T Co., Intel Corp., Digital Equipment Corp., IBM Corp., JVC Corp., NEC Corp., Mitsubishi Electronics America, Philips CE and Sony Corp.

JPEG roots. JPEG was designed for compressing continuous-tone (photographic-quality) color still images. Both JPEG and MPEG are based on a DCT (discrete cosine transformer)-based algorithm, which eliminates redundant image information by dividing the image into small blocks.

The higher the compression ratio, the more information that's deleted and, therefore, the more image detail (and quality) that's lost. JPEG can be used to compress images at ratios of up to 25-to-1 without a noticeable loss of image quality. A 25-Mbyte image can be cut to less than 1 Mbyte.

JPEG is symmetrical; the same hardware or software used to com-

See MPEG, Page 32

SCREEN TEST

Designer shuffles Mac images, makes star turn on Cher CD cover

Los Angeles — With about three weeks to tune up the cover for "Love Hurts," Cher's latest CD for David Geffen Co., Margo Chase composed the artwork on the Mac.

Drawing on Cher's idea for a "white queen/dark queen" image, Chase suggested designing a tarot-card motif. Chase, owner of Margo Chase Design, based here, assembled the cover art from scanned images in Adobe Photoshop.

Because there wasn't time for Cher to do a new photo shoot for this project, Chase scanned a photo of the singer on a slide scanner at Graphics Plus of Culver City, Calif., and hired a photographer and a torso model who posed as a stand-in for Cher. The photographer also shot most of the other art elements, which Chase then scanned in on her Microtek 300Z flatbed scanner. Chase created the background from a scanned black-and-white magazine photo of a church by duplicating and colorizing the image in Photoshop.

After assembling the photographic elements, Chase used Photoshop's Paste and Mask controls to give the piece an aged look. She created the Cher logo and the CD title in Adobe Illustrator 3.0.

Chase separated the file into CMYK (cyan, magenta, yellow, black) in Photoshop and imported it into QuarkXPress, where she added the song titles and credits. She then sent the file to Applied Graphics International of Burbank, Calif., to be output to film. The film was sent to Geffen, also based here.

The final cover unfolds into a small four-panel poster. Chase also created 12 other tarot-card images, one for each song on the CD, which were included in a special boxed package of "Love Hurts."

Chase, who said 80 percent of her business is with record companies, has been a designer for 10 years. She started using the Mac about a year ago. "I realized I could be saving myself and my clients a lot of money using the Mac," she said. — By Jennifer Ambrulevich

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MPEG

From Page 30

press an image can decompress an image. Compression and decompression times are about the same.

Companies such as C-Cube, Radius Inc., Storm Technology Inc., SuperMac Technology and Eastman Kodak Co. have announced JPEG-compatible hardware or software, and Apple's QuickTime multimedia extensions are JPEG-compatible.

JPEG also can be used to compress video. It treats each frame as a separate image and compresses each frame individually through a process called intraframe coding. This means a user can randomly access any individual frame within the compressed video. But even with compression ratios of 20-to-1, a few seconds of compressed 24-bit-color video with a resolution of 640 by 480 pixels requires a large hard disk for storage. The data transfer rate required to play back that compressed video is faster than CD-ROMs (which run at 1.2 to 1.5 Mbps) can handle.

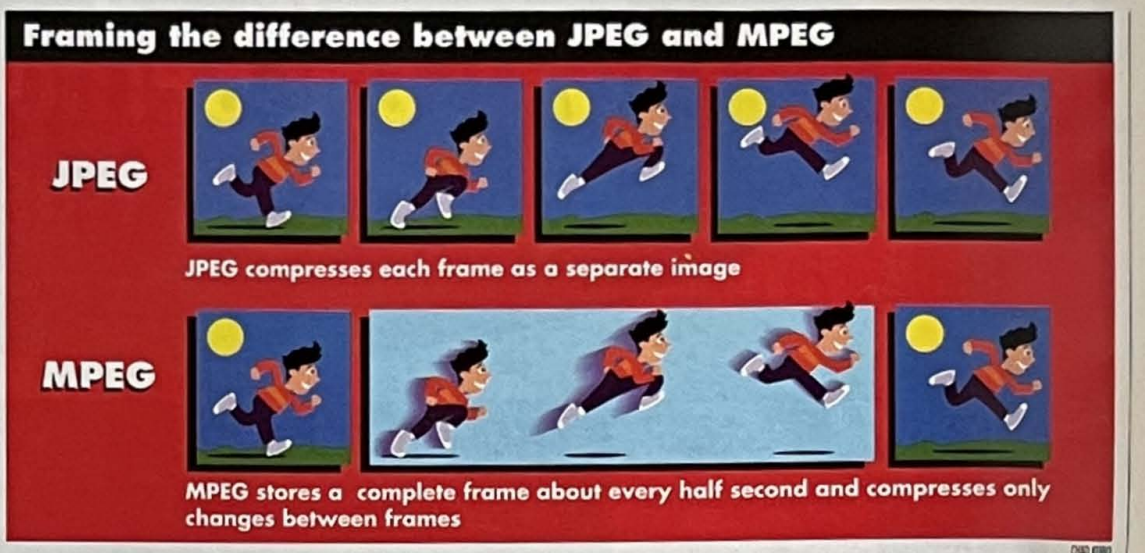
JPEG vs. MPEG. MPEG was designed specifically for video. Along with intraframe coding for removing redundancies within a frame, MPEG employs interframe coding, which eliminates redundant information between frames. In a video sequence, for instance, an actress might only turn her head; the background stays the same. MPEG recognizes that the background is redundant and doesn't need to be stored for each frame.

This scheme prevents easy access to individual frames within a compressed MPEG video. "With MPEG, you basically have an interframe about every 15 frames (every half second)," said Mauro Bonomi, C-Cube director of marketing. "If you wanted to access an individual frame, you would have to reconstruct or interpolate the data using several frames, so you don't have random access to individual frames."

This sacrifice, however, allows for higher compression rates than JPEG-compressed video. MPEG can compress video at rates of up to 50-to-1, high enough to allow the compressed MPEG video to be decompressed at a data transfer rate of about 1.5 Mbps (compatible with CD-ROM drives).

Producers and viewers. Unlike JPEG, MPEG takes an asymmetrical approach to compression, with more hardware and computer power required to compress full-motion video and audio than to decompress it, said C-Cube, the first company to show a single-chip MPEG video decoder, or decompression-only chip.

The asymmetric approach, which is used in Intel Corp.'s DVI (Digital Video Interactive) compression technology, divides the world into producers-publishers of compressed video and viewers-consumers. Applications that require you to compress the video only once and decompress it over and over again include training, publishing and games, which are already being produced on CD-ROM.


Framing the difference between JPEG and MPEG
JPEG
JPEG compresses each frame as a separate image
MPEG
MPEG stores a complete frame about every half second and compresses only changes between frames

C-Cube plans to deliver developer kits with its MPEG video decoder, known internally as the CL-950, early next year, Bonomi said. The chip will let users decompress full-motion, full-color video (but not audio) in real time. Unlike C-Cube's JPEG chip, the CL-950 is based in part on a programmable processor that can be updated through software as the MPEG algorithm is changed. Compression, which won't be done in real time, will require separate software and a video digitizing board.

C-Cube's processor will support two modes: MPEG and JVC Extended mode. In MPEG mode, developers can compress video at ratios of up to 200-to-1 and at resolutions of up to 704 by 576 pixels — more than double the resolution proposed by the base level of MPEG. JVC Extended mode, which is being developed with Victory Company of Japan Ltd., offers compression ratios of up to 50-to-1.

The difference is image quality. In MPEG mode, the quality level will be comparable to VHS. Video will be decompressed at 1.2 to 1.5 Mbps, so the compressed video could be stored on CD-ROM. In JVC mode, the video resolution is broadcast-quality, but the video is decompressed at 6 Mbps, not fast enough for CD-ROM.

C-Cube will supply its MPEG video processor to N.V. Philips for use in Compact Disc-Interactive systems, which Philips plans to ship in 1992. In addition to C-Cube, companies that announced development of MPEG-based compression hardware include Motorola Corp., Texas Instruments Inc., Intel Corp., Brooktree Corp. and LSI Logic Corp. □

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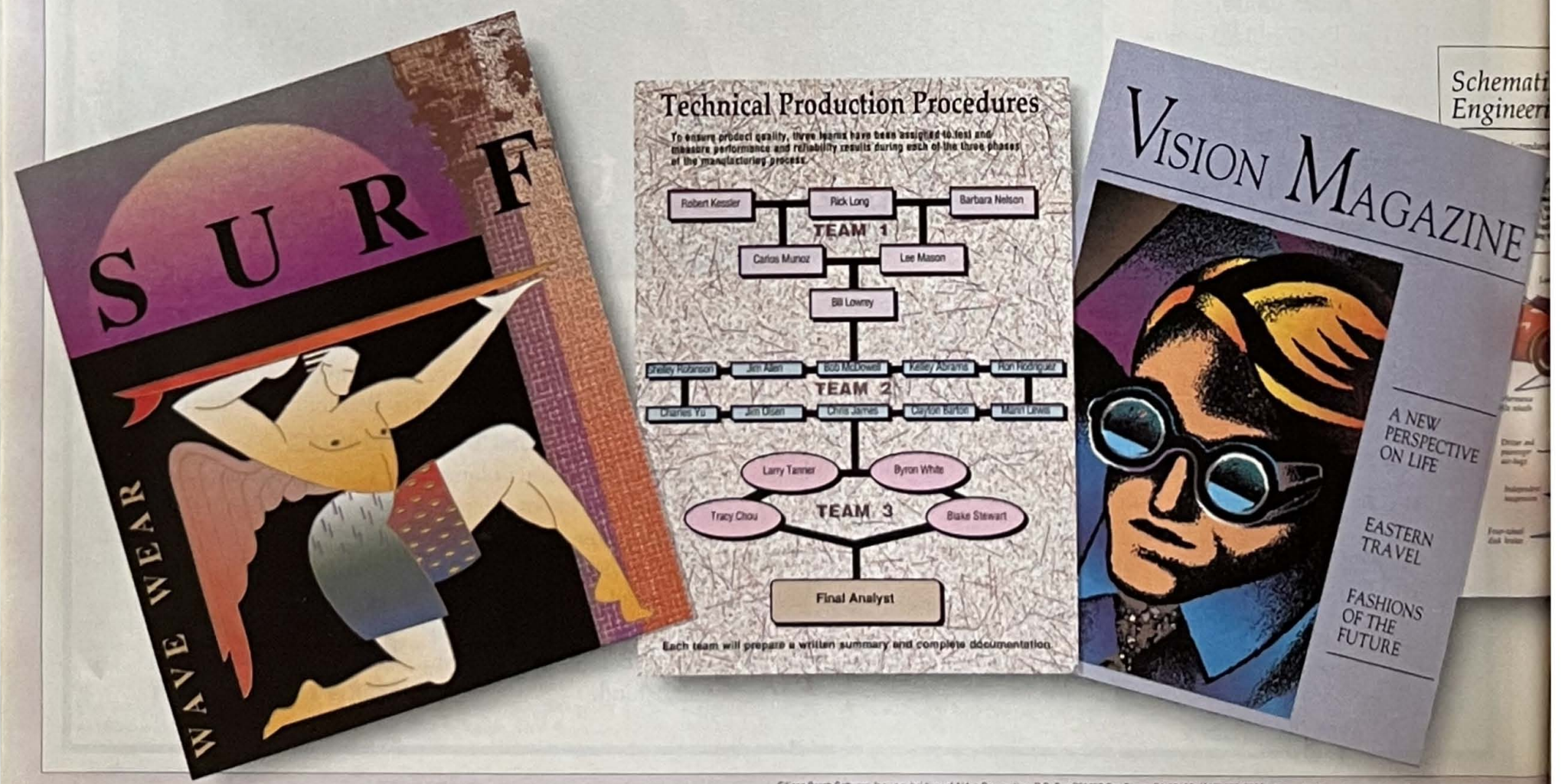

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New flatbed scanner from DPI captures line art at 2,400 dpi

Art-Getter scans color, gray scale

By Matthew Rothenberg

Cincinnati — DPI Electronic Imaging has lined up a flatbed scanner that handles color and gray-scale images and smooth line-art scans at up to 2,400 dpi.

Available now for $2,795, the Art-Getter is a three-pass CCD (charge-coupled device) scanner based on a UMAX Technologies Inc. scanning engine.

DPI's device scans 24-bit-color and eight-bit gray-scale images at resolutions ranging from 50 to 600 dpi in hardware and line art from 50 to 2,400 dpi through a combination of software algorithms and hardware.

The Art-Getter captures documents up to 8.5 by 14 inches; scanning an 8.5-by-11-inch line-art document at 300 dpi takes about 10 seconds, according to DPI. Shadow detail can be enhanced with a hardware control, and the company's Calibrated Spectrum Enhancement technology automatically optimizes the gray-scale or RGB (red, green, blue) values for a scan, according to the company.

The scanner package includes Adobe Systems Inc.'s Streamline 2.0 tracing application, which lets users convert high-resolution scans of line art to PostScript files.

Other software bundled with the Art-Getter includes the complete version of Adobe Photoshop 2.0, Adobe's $895 image-editing program; a plug-in module for scanning directly into Photoshop; Scan-X Professional, DPI's own scanning desk accessory; and drivers for Caere Corp.'s OmniPage optical character recognition software.

The Art-Getter ships with a SCSI interface and cable. An optional 50-page document feeder and the OmniPage Professional OCR application also are available from DPI.

In addition, the company said it will release a transparency attachment for the scanner within the next six months.

DPI Electronic Imaging is at 7932 Blackthorn Ave., Cincinnati, Ohio 45255. Phone and fax (513) 474-4028. □

Adobe

From Page 30

Interchange PostScript may remain limited until monitor technology improves to the point where users can easily read documents on screen, Pirani said.

Adobe plans to publish the format next year, making specifi-cations available to other developers who could innovate and expand it. The company also will license the technology, as well as building products such as viewer applications.

While cautioning that Interchange PostScript is still in an early stage, Adobe has been offering technology demonstrations that show off some potential features.

Interchange PostScript documents could contain "hot buttons," similar to hypertext links, that would let users navigate quickly between different parts of a document — as well as linking to documents across a network, even on other platforms.

Hot buttons could be used, for example, to link table-of-contents entries to the appropriate chapter or link a reference to another document. Adobe sees the hot-buttons concept as a way for people distributing Interchange PostScript documents to add value to the original material.

Thumbnail page views displayed alongside a document provide another quick navigation tool.

Looking further into the future, Adobe CEO John Warnock said that document interchange doesn't have to stop with formatted text and graphics.

Warnock, who has taken the stage at several Seybold Publishing conferences to tout the emerging technology, said that eventually users on different platforms could exchange documents that include other media types, such as voice or video. □

The technologies behind interchange

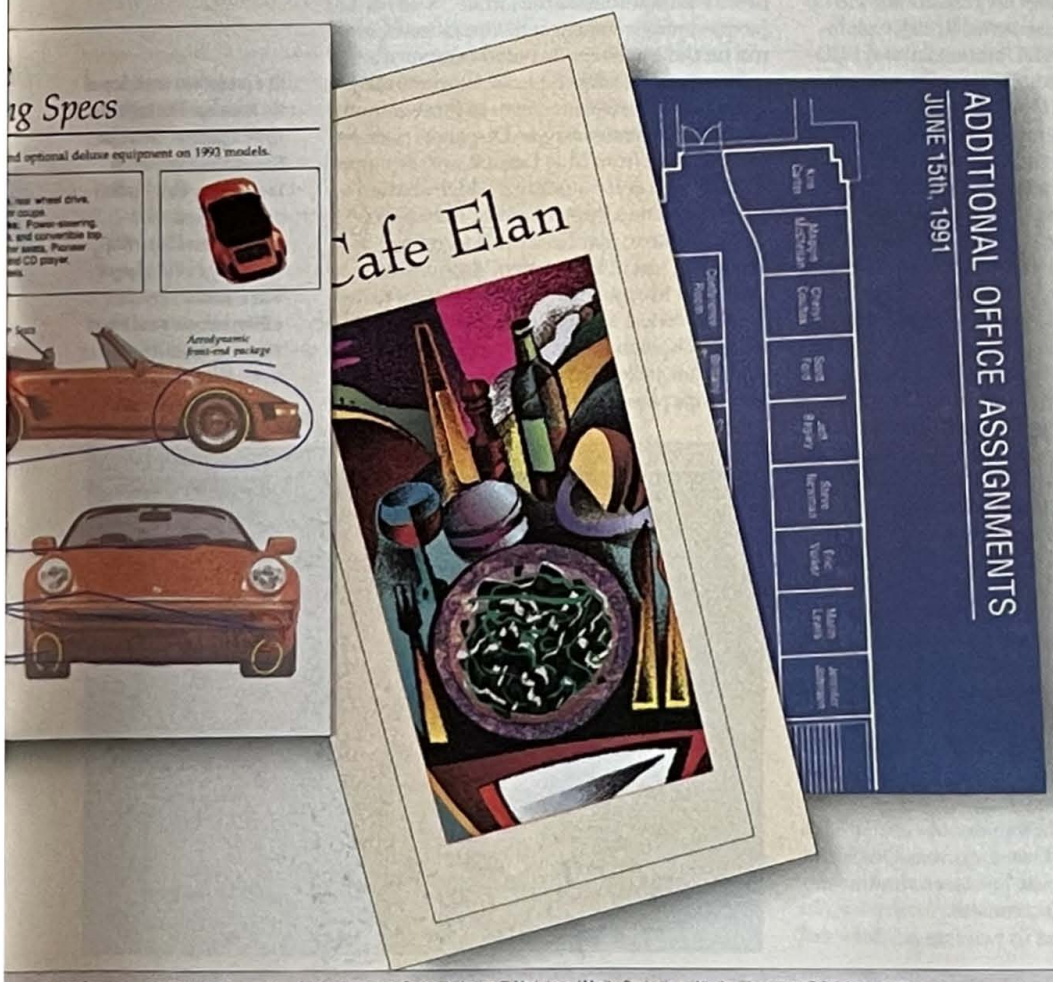
Adobe Systems Inc.'s approach to interchangeable documents is based upon several of the company's technologies.

- **Multiple Master fonts.** Announced last March (see MacWEEK, March 12), these are specially designed Type 1 fonts that can generate hundreds of font variations. When a user opens a document containing uninstalled Type 1 fonts, the Multiple Master font can match the original font metrics, thus preserving line breaks and other essential formatting information.
- **PostScript applications.** The thousands of applications based on PostScript can "print to PostScript" — that is, write a PostScript disk file describing a document file. Adobe's technology may use a utility program to convert these PostScript files into Interchange PostScript files.
- **PostScript Level 2.** The latest version of PostScript offers built-in JPEG (Joint Photographic Experts Group) decompression, as well as an imaging model for device-independent color. Interchange PostScript would build upon these technologies, so Interchange PostScript documents would be relatively compact, and accurate color information could be transmitted.
- **Adobe Type 1 Coprocessor.** Announced in October (see MacWEEK, Oct. 8), the coprocessor performs font rendering in hardware, improving performance for display and printing of text. Its widespread use could improve the speed of creating and displaying Interchange PostScript documents.

— By Carolyn Said

Is so. Is not. Is so.

New Aldus SuperPaint 3.0.



(Suggested retail price $199.)

Let's put this argument to rest. It's both. SuperPaint® is the all-in-one program that makes it easy to do it all—combining paint, draw, and image enhancement—saving you time and money.

As you can see, its range of capabilities makes it perfect for either business users or graphic designers. And now with the added color capabilities, EPS import and export, textures, and gradients, it gives you even more creative options (by the way, it still works great in black and white).

Of course, the best way to settle any argument over SuperPaint is to try it.

See your Aldus dealer or call 206-628-2320 for more information.

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In this week's expanded GA section, we take a look at the present and future of Mac-based video production, with a focus on video-editing programs, in-house production, video-titling programs and an in-depth look at QuickTime.

QuickTime reality check: What it will and will not do

By Connie Guglielmo

Like the character in Woody Allen's "The Purple Rose of Cairo" who is swept off her feet by a movie character who comes to life, QuickTime users may have trouble distinguishing fantasy from reality when it comes to figuring out what Apple's System 7 multimedia extensions will do.

What QuickTime won't do when it is released at Macworld Expo in January is allow users to create "Star Wars"-like movies on the desktop. But what QuickTime will do, according to users, analysts and developers, is focus attention on content and away from the technology being used to deliver the message.

"When you talk about multimedia in the context of business users, QuickTime allows people to include video in basic communications," said Tony Bove, editor of the Bove & Rhodes Inside Report on Desktop Publishing and Multimedia in Gualala, Calif. "If you want customer reaction to a product, you can videotape that person talking and easily make a presentation to show off that clip. Quality is not the issue. The content is what is important."

Potential. Introduced in June, QuickTime is a System 7 technology that makes handling media — film, video, sound and animation — as integral a part of the Macintosh as handling text and graphics (see MacWEEK, June 4).

Because it is software-based, QuickTime's video-compression scheme allows you to play back digitized video, stored as QuickTime movies, at only about 15 frames per second, compared with 30 fps for full-motion, real-time video. Even compressed, most QuickTime movies probably will be distributed on CD-ROM or stored on a server and distributed across networks.

Window size is currently limited to 160 pixels by 120 pixels, about two-and-a-quarter by two-and-a-half inches. Mac-generated animations can be played back at speeds of up to 30 fps, depending on Mac performance and the color depth and complexity of the images. QuickTime requires a color, 68020-based Mac with a minimum of 2 Mbytes of RAM (see QuickTime performance story at right).

Many developers, including Adobe Systems Inc., Aldus Corp., Truevision Inc. and MacroMind-Paracomp Inc., have announced support for QuickTime — either by allowing users to play QuickTime movies within their applications or by exporting QuickTime's movie or extended PICT format.

"We see it as an emerging technology," said Doug DeRusha, project coordinator for Motion Works Inc. of Vancouver, British Columbia. Motion Works' ADDmotion 2.0 and PROmotion 2.0 animation software will let users export animations in QuickTime movie format.

"Although it's rudimentary at this point, what QuickTime (being software-based and part of the Mac operating system) does as much as anything is make the whole precept of dynamic data a reality," DeRusha said. "What was once possible only with hardware solutions will become more commonplace. People will be able to incorporate animations and video and motion into static presentations."

Third-party developers also are offering QuickTime-compatible video boards, such as SuperMac Technology's VideoSpigot boards and New Video Corp.'s EyeQ system, that not only allow users to digitize video but also let users extend the compression ratios and playback speeds of QuickTime. But users seem prepared to make the most of what's available.

Living with limitations. "There are a lot of applications for non-full-motion video," said Denise Caruso, editor of the San Francisco-based Digital Media newsletter. "You don't need to have Indiana Jones-style, full-motion video to film the inside of a house for a real-estate firm or to send snippets of video across electronic mail."

Michael McGrath, founder of Grafica Multimedia Inc. of San Francisco, sees QuickTime changing the way he can communicate ideas to clients and customers.

"QuickTime offers us two things," McGrath said. "We get rid of a lot hardware that intimidates our clients when they come in to see presentations. No more laser disc or audio mixers. We can put the video and sound into a QuickTime movie.

"QuickTime also lets us add more content — more depth — in our screen presentation because you can store things on disk."

Grafica is already at work on a CD-ROM software catalog of educational products for Apple. The disc, due in March, will feature QuickTime movies containing comments from educators on various applications, as well as software demos in QuickTime movie format.

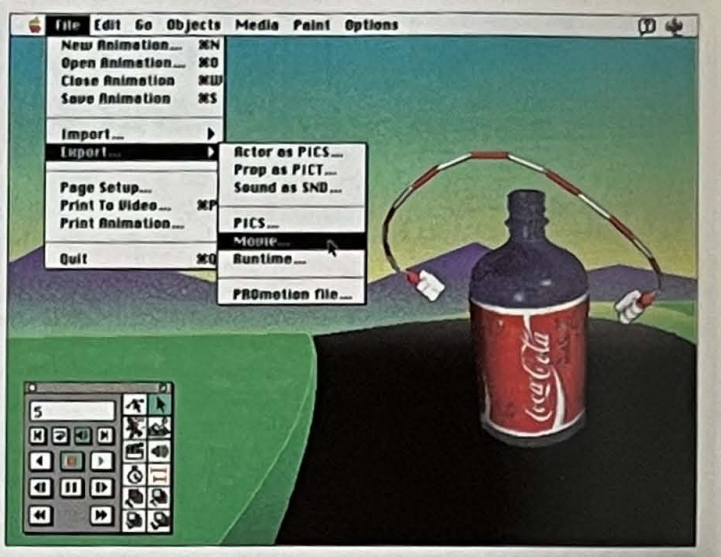
As a multimedia producer and longtime Mac user, McGrath is not concerned with the current limitations of QuickTime. "I have non-computer people come in here and say, 'If you've got $10,000 worth of hardware and all you can do is this little window, what's the point?' " he said. "The point is interactivity."

Northwest Airlines Inc. has been using beta versions of QuickTime to prototype a new Weather Image Distribution system, which will give its dispatchers animated versions of weather imagery from satellites and radar.

"We are constantly watching the weather because it is important to the airline," said Alistair Jacques, project manager at Operations Control for the Minneapolis-based company.

Currently, the 350 types of weather images the airline receives every two to three minutes are stored as static images. Dispatchers access weather data from Mac IIci stations, equipped with 19-inch color monitors, which are tied into the airline's three mainframe systems.

"We'd like to play back the images in a sequence, sort of like a video," Jacques said. "We want to expand our current system to include historical images using QuickTime so that when a dispatcher calls up weather maps for a flight plan, instead of getting single images, he gets maps played back as a QuickTime movie."



This image from Motion Works shows a Coke bottle skipping rope. It was created in Specular International's Infini-D and output as a PICS file before it was imported into Motion Works' PROmotion 2.0. Here it is being exported to QuickTime movie format.

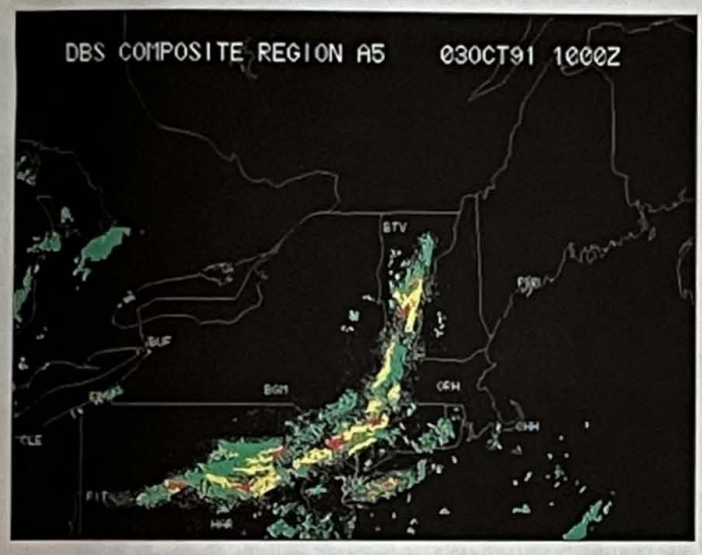
At a production workshop of the American Film Institute-Apple Computer Center for Film and Videomakers in Los Angeles, Chris Bardin, an independent video producer, used SuperMac Technology's VideoSpigot board, Adobe's Premiere editing software and a beta version of QuickTime to create this movie, titled "Hollywood Boulevard."

Playback speed and window size are not really issues. "We're looking at time-lapsed photography in a sense, and we would only want to look at frames 10 minutes apart," Jacques said.

Other potential uses of QuickTime, said Jacques, include creating animated versions of flight paths that can be superimposed over the animated weather maps so the airline can pinpoint the location of its flights in relation to other airline flights.

Professional appeal. Video professionals, those most likely to already have the hardware to digitize video and also most used to working with full-motion video, see varied uses for QuickTime in non-broadcast environments.

"A lot of people are interested in QuickTime because they see it as a really easy way to do off-line visualization," said Nick DeMartino, director of the American Film Institute-Apple Computer Center for Film and Videomakers in Los Angeles.



Northwest Airlines has been using beta versions of QuickTime for its Weather Image Distribution system, which will give its dispatchers animated versions of weather imagery from satellites and radar. The green and yellow represent different degrees of precipitation, while red signifies areas that the radar could not detect.

In October the center offered a four-day production workshop in which professionals created presentations using beta versions of QuickTime and Premiere, Adobe's editing software. Attendees ranged from professional video makers to corporate marketing professionals to an ophthalmologist interested in creating QuickTime movies as updates of surgical techniques for eye doctors.

"Some saw QuickTime as a sort of a video sketch palette that would allow you to bring in raw footage, graphics and other elements and create a video comp," DeMartino said. "You spend a lot of time and money doing off-line work and getting approvals. QuickTime provides a way to make alterations and visualize those alterations before you go to the on-line editor."

DeMartino also sees QuickTime movies, delivered on CD-ROM, changing the nature of sales information. "There are companies that would like to include QuickTime movies with their text documents when they're selling spot time for TV stations. It would be random access, so you could go directly to a particular item instead of having to fast-forward through a videotape."

Will QuickTime ever be ready for prime time, allowing users to create broadcast-quality presentations? Eventually, said Bove, but once again he added that QuickTime will remind users that content is the key.

"If people are going to buy postage-stamp-size, 15-fps video, they're going to buy it because of the content, not because of the quality," Bove said. "People talked about wanting magazine quality in the early days of desktop publishing, but not many people were doing magazine-quality work." □

A preview of QuickTime performance

By Ric Ford

QuickTime is many things, but its digital movies are its most exciting capability. As the original Mac extended personal computing into sound, graphics and simple animations, QuickTime promises to push us to a new level, where real-world sounds and moving color images are digitized, manipulated and played back on the Mac.

We took a peek at a beta-test release of QuickTime to get a preview of performance issues in this new medium. Although the released product will be improved from the test version, our results point to processing power as a critical bottleneck that can limit digital video quality.

The medium. Television gives you 30 full-screen images per second with high-quality stereo sound. QuickTime is stretched trying to handle 15 postage-stamp-size pictures per second on a Quadra 900, with medium-quality monophonic sound.

The standard size for today's QuickTime movies on an unenhanced Macintosh is 160 by 120 pixels, a sixteenth of the normal 13-inch screen image. Sound is generally sampled at 11 or 22 kHz with eight-bit resolution.

Within these constraints, typical playback speeds are on the order of 5 to 10 frames per second for Mac II-class machines.

Working with larger images is very difficult without introducing additional hardware. Just doubling the movie's dimensions to a quarter-screen drops the frame rate dramatically, and full-size, full-motion movies are out of the question on any unassisted Mac.

The platform. There are few computer applications that are as demanding as digital video. A QuickTime movie strains the capabilities of processors and memory, disk subsystems, video and audio circuitry, and the various buses and pathways that join them.

If you could digitize and save full-screen, full-color video at full speed, you would be processing about 27 Mbytes per second. Forty-five seconds of video would fill a 1.2-Gbyte hard disk, and audio would add to that.

However, neither hard disks nor the Mac's NuBus are ready for data transfers at this rate. Instead, the data must be reduced as it is converted from analog to digital. This can be done either by compressing the information or by limiting its size and speed.

Newer Macintoshes incorporate limited audio-digitizing circuits, but you will need to rely on third-party vendors for video digitizers. These digitizers may incorporate on-board compression in the future, with the potential to revolutionize desktop video, but QuickTime will ship first to an installed base of users whose only compression hardware is a Mac CPU.

We ran tests on a Quadra 900, a Mac IIfx and a Mac II to see how they performed in compressing and decompressing QuickTime movies. We used the popular ColorBoard 364 from RasterOps Corp. for digitizing video. A single MacRecorder from Farallon Computing Inc. captured audio on each Mac except the Quadra 900, where we used the on-board audio digitizer.

When QuickTime ships, third-party digitizing boards with on-board compression hardware may be ready, providing higher performance with a reasonable added investment, but we tested with current hardware to establish a base line.

The results. Our test results indicate that the Mac is short of horsepower for software compression, even at the top of the line. Compressing incoming video kept the frame rate below 12 frames per second on a Quadra 900, with a tiny, stamp-size image. Doubling the image dimensions dropped the frame rate below 3 frames per second with compression.

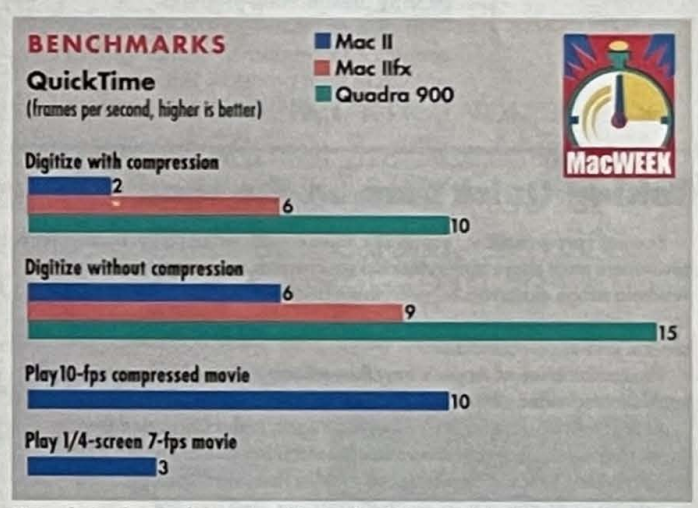
Turning off compression, we could reach 15 frames per second on the Quadra 900 for the small image but only 6 frames per second at the larger size. The data rates without compression are very large, however: more than 30 Mbytes per minute of digital video for small images. Disk and SCSI constraints start to enter the picture at data rates much above this.

Without compression, the IIfx digitized just a few frames per second slower than the Quadra 900, but it was hurt more by compression and hampered by a slower disk system. The Mac II digitized with reasonable speed (more than 5 fps) if compression was disabled, but it turned in poor results while compressing even small images.

Audio could be digitized at a respectable 22-kHz rate, with a penalty of a frame or two per second, as long as playback was disabled during the digitizing process. Handling audio and video in separate passes boosts speed but introduces synchronization issues.

In playback, the Quadra 900 and IIfx could keep up with anything we were able to digitize, but the Mac II was unable to play back larger movies at full speed. Movies at the tiny standard size played on the Mac II at close to 10 fps.

Curiously, we found that the overhead of converting 24-bit images to lower-bit depths actually hurt performance of playback. On the Quadra 900, playing a quarter-screen movie in black and white was unacceptably slow; dithering also took a big toll with four-bit gray scale.



Movies digitized using a beta version of Apple's MoviePlayer and QuickTime extensions under System 7.0.1. Video digitizing was performed at 24-bit depth with RasterOps' ColorBoard 364. Farallon MacRecorder or Quadra line-level sound inputs were used for audio. Each computer had at least 8 Mbytes of RAM. Virtual memory, 32-bit addressing and networking were turned off. Standard disk cache size was used. Except as noted, we chose 22-kHz sound with play-through disabled, standard 160-by-120-pixel movie size and MoviePlayer default settings.

Wrap-up. Even with standard Mac hardware, QuickTime offers the potential for creating interesting new documents. The medium is naturally suited for slow-motion and strobe effects, and it can easily handle slide shows synchronized with audio. Digital video artists undoubtedly will create new forms, just as MacPaint inspired computer artists in 1984.

A desktop video revolution, however, will require supplemental hardware beyond what Apple offers today in its fastest Macs. □

Third-party presentation players are lining up for QuickTime debut

QuickTime has some developers starry-eyed, but most are taking a wait-and-see attitude before upgrading established products.

By Roger Karraker

Although Apple's upcoming release of QuickTime, its multimedia system extension software, will be important to publishers of presentation applications, many developers are cautiously testing customer reaction before committing themselves to new versions or upgrades that will accommodate QuickTime's new "movie" file format.

Neither Aldus Corp., publisher of Persuasion, nor Microsoft Corp., the publisher of PowerPoint, has plans to release either QuickTime-savvy versions or upgrades. Yet both said they are considering new QuickTime versions and are conducting marketing tests to make certain that adding QuickTime functions won't overburden users of their existing packages.

Other developers, such as MacroMind-Paracomp Inc., Motion Works Inc., Virtus Corp. and National Instruments Corp., with its LabVIEW 2.0 scientific-analysis software, have committed to new versions or upgrades that will integrate QuickTime technology into existing presentation products.

In all, more than 44 Apple developers have announced intentions to include QuickTime support in their products. But when QuickTime ships — and Apple continues to promise its release before year-end — few of the products now used for business presentations will have QuickTime integrated.

This doesn't mean that a lack of software upgrades will prohibit Mac users from incorporating QuickTime movies into all kinds of documents. On the contrary, as reported in the Oct. 22 issue of MacWEEK, an Apple utility, Wild Magic, will allow users to play back QuickTime movies in any application that supports the Macintosh Scrapbook.

In part, developers are hesitant to load new QuickTime features into existing applications because the new functionality could radically alter the distinctions between office productivity applications, presentation applications and multimedia production programs.

"No one will ever again be able to say to us 'Why not just buy the book?' " said Catherine Black, managing director of Hong Kong's InterOptica Publishing Ltd. The company will include QuickTime movies on its latest CD-ROM, The Orient.

The introduction of QuickTime presents new problems for marketing managers who like neat market categories: Now all Macintosh applications can incorporate multimedia.

For example, at QuickTime's introduction in June, WordPerfect Corp. of Orem, Utah, showed an upcoming release of WordPerfect 2.1, nominally a word processor, being used for on-screen catalog display, complete with QuickTime movies.

"We have already had quite an interest for the educational community to incorporate dynamic media in documents," said Roger Bell, WordPerfect director of Macintosh marketing. "The computer is no longer merely the tool to create a medium, but the medium itself."

A boon for developers. In addition to giving the Macintosh new powers as an information publishing medium, developers say the fact that QuickTime's video compression and decompression are now part of system software takes a load off their programmers.

"Prior to QuickTime we had to write code for Director and MediaMaker to control external devices," said Scott Walchek, director of worldwide product marketing at San Francisco-based MacroMind-Paracomp. "Now we don't have to worry about that any longer; we can use the QuickTime underpinnings and concentrate more on the user interface."

Walchek said Director will support input of QuickTime movies as objects, and the program will use both QuickTime's run-length encoding scheme for compression and the support output of QuickTime movies. He said all of MacroMind-Paracomp's products will eventually include QuickTime support.

Seattle-based Aldus used the recent Comdex/Fall '91 show to conduct some instant test marketing. In conjunction with Apple and Minneapolis-based Envisio Corp. (see story at left), Aldus demonstrated a test version of Persuasion running QuickTime movies inside a Persuasion presentation.

Aldus, Microsoft debate strategies. Both Aldus and its chief rival, Microsoft, are wrestling with how much functionality they want to include in their presentation products.

"We're debating what is necessary to include in PowerPoint to give business presenters the tools they need," said Phil Missimore, a spokesman for Redmond, Wash.-based Microsoft.

Missimore said the small size of QuickTime movie windows is a deterrent to using it in full-screen presentations. "As QuickTime evolves and can offer more full-screen, full-motion video, you will see PowerPoint get involved."

Scientific QuickTime. There's no such hesitation at Austin, Texas-based National Instruments, whose new LabVIEW 2.0 is expressly designed to take advantage of QuickTime.

LabVIEW's inclusion of QuickTime will add a whole new dimension to the collection and display of scientific and engineering data, according to Rob Dye, a National Instruments software engineer. LabVIEW 2.0, a $1,995 application due to ship later this month, allows scientists and engineers to create "virtual laboratory instruments" in software that performs the same tasks of data analysis and display as expensive hardware instruments. QuickTime will be used inside LabVIEW to allow users to create movies of graphs and other moving data, then send the movie along with the data to other researchers.

Virtus Corp. of Cary, N.C., also has announced that its 3-D visualization tool, Virtus Walkthrough, will support QuickTime. Due in January, this new version will let users save Virtus Walkthrough animations as QuickTime movies for use in other System 7 documents or applications.

Interactive programming. Claris Corp.'s HyperCard and its work-alikes, Silicon Beach Software's SuperCard and Spinnaker Corp.'s PLUS 2.5, are often used for creating business presentations. Apple will include external commands (XCMDs) with QuickTime that will enable HyperCard users to incorporate QuickTime movies into HyperCard 2.1 stacks.

But Motion Works of Vancouver, British Columbia, wants to go even further. The company's $295 ADDmotion 2.0, a 24-bit painting and animation XCMD, will ship by year-end with "hooks" for supporting QuickTime. An updated version of the company's $495 stand-alone application, PROmotion for System 7, also will ship by year-end.

Spinnaker of Cambridge, Mass., has no plans "in the near term" for an upgrade to PLUS 2.5, but Public Relations Manager Doug Campbell said, "There's no question that QuickTime will drive the market if there are appropriate authoring tools available."

Almost without exception, developers agree that QuickTime will be a rapid, potent force that will drive Mac development. But its implications are so vast that it will take several months before many of them figure out how best to implement its revolutionary capabilities. □

Taking QuickTime on the road

Business presentations, especially those conducted at conferences where presenters must share bulky desktop equipment, are fraught with danger. A whole range of horrors — everything from missing fonts, loose cables, incompatible video cards and applications — have been inflicted on presenters and audiences alike.

The combination of Apple's new PowerBook notebook computers and sophisticated video-output adapters could soon change all that.

At the recent Comdex/Fall '91 in Las Vegas, Aldus Corp. and Envisio Corp. used a monochrome PowerBook containing one of Envisio's NDA internal video cards to display a color Aldus Persuasion presentation — including QuickTime movies — on an external VGA monitor.

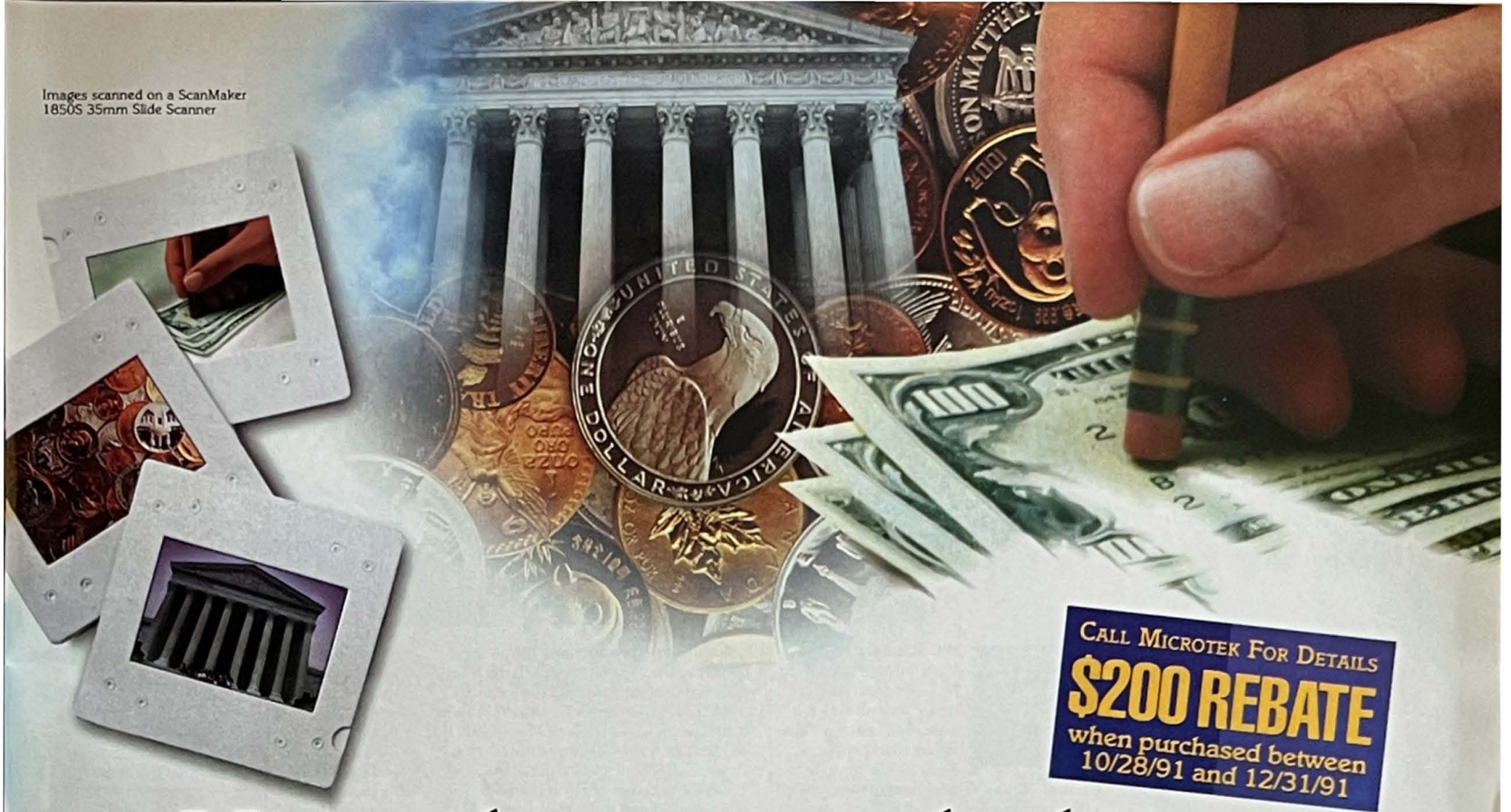
Thus, future business presenters equipped with a PowerBook and video-out capability will be able to sidestep shared conference equipment, running their debugged presentations directly from PowerBooks into industry-standard video projection equipment.

The Envisio NDA for the 68000-based PowerBook 100, as well as the NDA/030 for the 68030-based PowerBook 140 and 170 models, enable these machines to output a standard video signal. Both cards convert the Mac's internal video scan rate to rates that can be used by standard VGA monitors, video projectors and LCD overhead projectors. However, because QuickTime requires a 68020 processor, you can use only the PowerBook 140 and 170 models for these types of presentations.

The internal cards require no additional power, and the NDA/030 models support everything from eight-bit color in 640-by-480-pixel mode to monitors in 1,152-by-870-pixel monochrome mode.

The NDA card comes in two versions: with an additional 1 Mbyte of RAM for $695 and as a 2-Mbyte version for $895. The NDA/030 is available in three versions: with no additional RAM for $795, with 2 Mbytes of RAM for $1,195 and with 4 Mbytes of RAM for $1,595. The NDA/030 models also include a pass-through connector so additional motherboard RAM is available. — By Roger Karraker

Images scanned on a ScanMaker
1850S 35mm Slide Scanner



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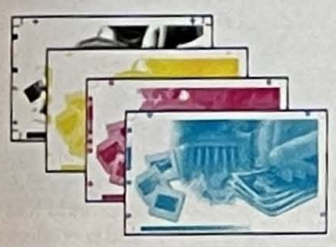

If price has been the barrier separating you from high quality color scanning, take a look at the ScanMaker 1850.

Another stunning price breakthrough from Microtek, the leader in affordable color scanning solutions.

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Macs aid corporate video production

More and more corporations are relying on the Mac to help them create, edit and produce sales, training and marketing programs with both small and large budgets.

JAMIE TANAKA

Bob LeBoeuf, supervisor of video post-production at Pacific Gas & Electric's San Francisco production facility edits the company's monthly video newsletter using an on-line video-editing system. LeBoeuf used an Avid Media Composer non-linear editing system to assemble the production prior to going on-line.

For more on video production Go to Page 69

By Linda Jacobson

With the Mac's penchant for cutting and pasting images as well as text, it was only a matter of time before the Apple logo made its way from the desks of document processors to the domains of video producers.

As a result, more and more corporate video-production departments are supplementing (and sometimes replacing) their gear with Mac-based systems — to help them create and produce sales, training and marketing programs in facilities both large and small, high-end and low-budget.

Small-scale production. The ability to spend less than $5,000 for an A/B roll suite where student interns could easily learn to edit led Aloha, Oregon's Tualatin Valley Fire & Rescue Service, to order a Mac Classic II and Sundance video-editing software from Sundance Technology Group of Irving, Texas, for its 6-year-old S-VHS studio. The Aloha studio feeds a closed-circuit cable channel communicating via INET (Institutional Network system) to 17 fire stations in suburban Portland.

The TV manager, Alida Thacher, wanted a system that would grow with the studio, which she runs with the help of a staff assistant and several student interns. "The advantage of using a computer system is your ability to purchase software upgrades rather than having to buy hardware, which our budget doesn't allow," Thacher said. "And computer editing is the way video is going."

Aloha's programming consists of federal- and state-mandated information that focuses on such issues as emergency medical treatment and hazardous materials handling. The station transmits up-to-the-minute information, shooting interviews in the field on S-VHS and editing about 20 hours of footage each week. The Sundance system helps them quickly log, assemble and manage edit-decision lists (EDLs).

Medium-size facilities. Economics drove the country's largest manufacturer of commercial truck tires to move from traditional to desktop video. Bandag Inc. of Muscatine, Iowa, set up a Betacam SP facility in 1989. However, after staff cutbacks last January turned the facility into "a one-man band," multimedia specialist Jim Cook sold Bandag's video switcher, editor and character generator and bought a Mac IIfx along with the Video F/X editing system from Digital F/X of Mountain View, Calif. "I didn't have to spend much out-of-pocket," Cook said, "and I had the camcorder, video players and recorders to operate with the Video F/X."

These tape machines represent the facility's largest cash investment, contributing to the overall cost-effectiveness of a Mac-based editing approach.

Cook uses the Macintosh system "for everything." With the Video F/X, he can log, create storyboards and print scripts simultaneously, "combining preproduction and post-production tasks," Cook said. This greatly facilitates the process of creating Bandag marketing and training videos, including a major motivational video shown in a large-screen theatrical presentation at Bandag's annual dealer conference.

Skilled video editors adapt quickly to using Mac systems, but the nature of non-linear video editing means they must adjust their editing approach. While traditional video editing forces you to work from beginning to end, non-linear video editing enables a film-style approach, working with segments in non-sequential order.

"It took me three days to realize the power you have to cut and paste video clips with the Mac in a non-linear fashion," Cook said. "A person learning video posting for the first time [on the Mac] would probably learn faster than I did, because you don't bring any old habits."

See Corporate video, Page 40

Mac-based video editing has many choices

Editing is vital to any video production, and many Mac-based systems are now available, with more on the way.

By Steve Rosenthal

The need to refine and condense hours of raw video footage into a tight presentation makes video editing the cornerstone of any video production. While that market has been traditionally dominated by expensive proprietary solutions, more than a dozen Macintosh-based video-editing systems are now available, with more on the way. Fortunately, most systems fall into a few general classes based on a combination of video-quality level, type of representation and mode of on-screen presentation.

But no one single category is always the best, said expert Bob Dennis, president of Pacific Media Center Inc. in Santa Clara, Calif. "You have to first decide what kind of work you're going to do and what kind of results you want," he said. Start by picking your overall quality level, then work your way down through specific features, Dennis advised.

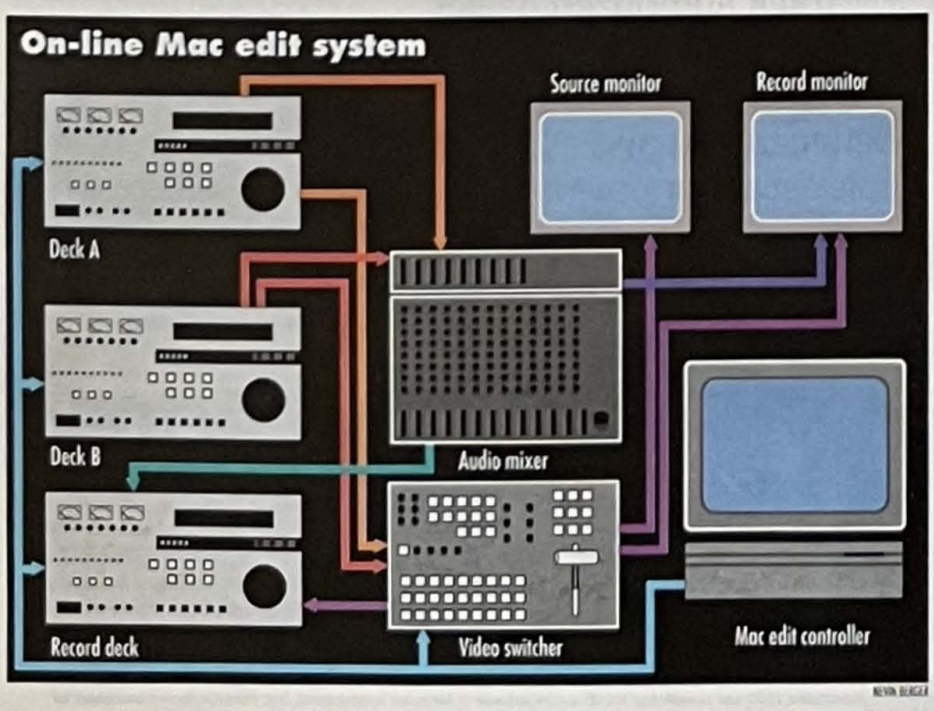
Finding the right system. To the viewer who will see the result but won't have to do any of the work, the most important difference between video-editing systems is the type of video playback and record decks they support.

The low-to-moderate-quality video produced by consumer and industrial decks is generally considered acceptable for internal training and presentation projects, but not for broadcast.

Most Mac-based video systems are intended to be used as "off-line" editing systems, where edit decisions are made and saved as an edit-decision list (EDL) for use in a more sophisticated "on-line" video-editing suite. An on-line suite requires a variety of peripheral equipment including a video switcher and other auxiliary equipment that can dramatically increase the cost of a video-editing system.

Frame accuracy. In most formats, non-professional gear can only guarantee positioning to the approximate location on the videotape, while professional gear offers "frame-accurate" motion that locates the exact video frame requested. While many industrial video decks are frame-accurate, some high-end

See Video editing, Page 40



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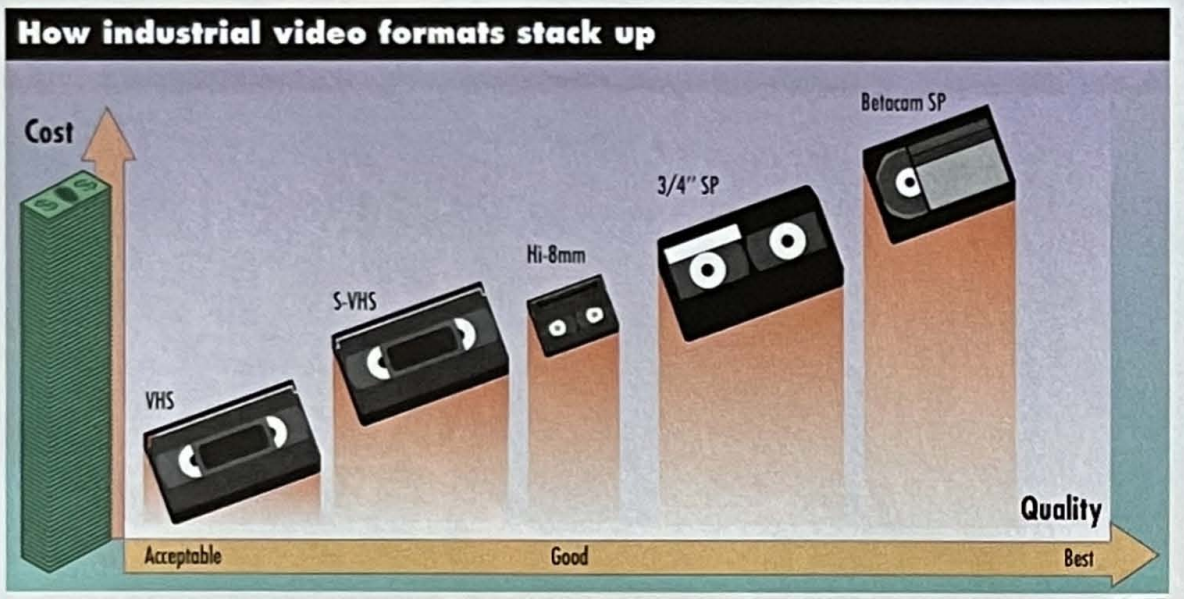


KEVIN BERGER

Video editing

From Page 38

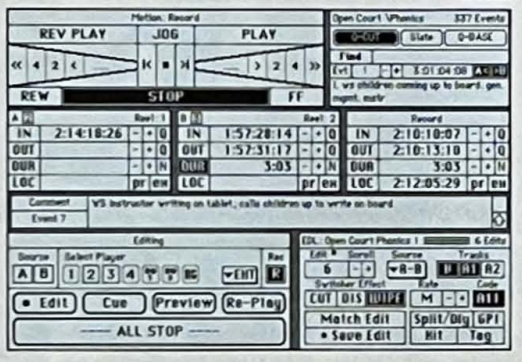
consumer video decks can be as much as 60 frames or two seconds off the mark.

Approximate location is often good enough for personal videos or for clips used in presentations, but it can slow down editing greatly if cuts have to be repeated many times to find the right spot. And when editing a precise cut to a spoken word or exact action, frame accuracy is an absolute necessity.

On the Mac, most of the lower-cost systems are set up to drive consumer and industrial decks through simple serial protocols such as Sony Corp.'s Control-L or the proprietary commands for NEC Technologies Inc.'s PC-VCR.

The Control-L protocol is used by a range of products from the $279 On-Track Mac package from Abbate Video of Norfolk, Mass., to the $995 StudioMaster from AT&T Graphics Software Labs of Indianapolis. NEC's PC-VCR protocol is supported by a growing number of edit packages, including NEC's own Video Sequencer software.

More-expensive systems meant for professional use are generally set up for RS-232 or RS-422 serial control of high-end decks. For example, CV Technologies of Northvale, N.J., uses this approach for the company's $4,500-and-up Edit Master Mac, as does Advanced Remote Technologies Inc. of Campbell, Calif., with its $2,000 to $10,000 ARNET hardware systems and $695 Video Publisher software.



Sundance Technology Group's Sundance System, which emulates list-based video editors, can interface with NewTek's VideoToaster.

StudioMaster from AT&T Graphics Software Labs is a HyperCard 2.0-based video-editing program that features transition effects, storyboarding and scene editing.

Avid Technology's Avid Media Composer lets users store a digitized and compressed version of source video on a large-capacity hard disk.

Working format. Another critical distinction among Mac-based editing systems is how you view and access the video footage while you are working.

On the majority of desktop systems, only control and status signals and an occasional still-frame picture are brought into the Mac, while video from both the source and playback video decks are shown on regular television monitors.

The Macintosh interface can make selecting the right shots and arranging sequences easier, but you still spend a lot of time waiting for the tape to move through the decks.

However, on a few systems, such as the $29,000 to $79,000 Avid Media Composer line from Avid Technology Inc. of Burlington, Mass., and the $9,995 to $14,985 Video F/X package from Digital F/X Inc. of Mountain View, Calif., you can store a digitized and compressed version of the source video on a large-capacity hard disk.

You then make your edit decisions based on the digitized image.

The final list is then used to complete the finished master copy, either on the Mac desktop with the Video F/X system or in a traditional on-line video-editing suite using the original footage.

If your viewers don't mind viewing a lower-quality stand-in, you can use the digitized video from either system for internal presentations, approvals and work meetings.

The main advantage of these "non-linear" editing systems is speed. Because you can

See Video editing, Page 42

Corporate video

From Page 38

High-end post-production. When Pacific Gas & Electric Co. must quickly communicate a new policy to its 25,000 employees throughout California, videotape carries the message. PG&E's Macintosh-based off-line video-editing system helps speed the process of getting the word out.

PG&E recently added two Avid Media Composer systems from Avid Technology Inc. of Burlington, Mass., to its $5 million video-production complex in San Francisco, which employs 10 people.

One reason for going with the Mac, said senior editor Bob LeBoeuf, is "in a few years, most of what's done on video will be done on personal computers."

Fifteen years after its first foray into in-house video production, PG&E is constructing a new video facility in another building. Expecting three months of downtime during the move also drove LeBoeuf to the Avid. Because it's a stand-alone system, "we'll be able to continue our off-line editing in a spare office and go to some on-line facility with our edit-decision list," he said.

The PG&E video department develops edit lists and then goes on-line with its Mac-based systems.

The Mac's friendly interface is a strong selling point, but video professionals are quick to point out that it doesn't guarantee Emmy Award-winning results. "The ability to push the right buttons does not an editor make," said LeBoeuf. "For professional-quality work, you need a skilled video editor, someone who knows how to build and pace a story."

Those skilled video editors — and the corporate accountants who track their every fiscal move — discover quickly that the non-linear, point-and-click style of video editing is well worth the learning and investment effort. □

Multimedia specialist Jim Cook works in Bandag's video-editing suite in Muscatine, Iowa. Cook uses a Video F/X video-editing system and Betacam SP video decks.

Mac looks good in video graphics

Editing isn't the only video-production task you can tackle with a Mac. The Mac's predilection for visual effects naturally provides a raison d'être for its use in creating graphics for corporate video.

San Francisco video-production house Adair & Armstrong, for example, uses its Mac system and programs such as Adobe Photoshop, Aldus FreeHand, and MacroMind-Paracomp Inc.'s Director and Swivel 3D to produce video graphics for both broadcast and corporate clients.

Adair & Armstrong first encountered the Mac in 1988 when hired by Beneficial Finance to create, develop and produce Smart Money, an educational, interactive laser-disc game for high school students. As a result, the company has become an Apple developer and QuickTime expert, using Mac IIci systems with Truevision boards and optimized RGB-NTSC (red, green, blue-National Television System Committee) conversion electronics to design and output slick, high-end graphics for video projects for television, CD-ROMs or laser discs.

One reason for creating graphics with a Mac instead of the vastly more expensive Quantel Paintbox systems, said Peter Adair, is that "there's a huge reserve of Mac free-lancers to choose from. I can count on one hand the number of free-lancers around town who work on the Quantel."

In the end, using the Mac is a cost issue, said Adair, and even if "you can't do everything with a Mac that you can do on a Paintbox, you can do simple stuff that looks just as good" — for a lot less than it costs to buy the high-end system. — By Linda Jacobson

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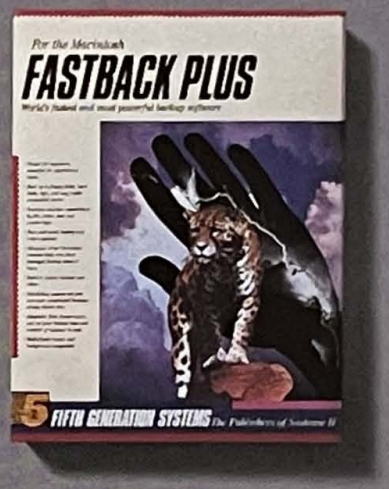

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FIFTH GENERATION SYSTEMS, INC

Video editing

From Page 40

select any frame or shot at hard disk speeds rather than waiting for a tape deck to shuttle back and forth, you can work faster or examine more edit alternatives.

For the Video F/X system, digitizing the tape also lets you leverage your edit hardware. Once a project has been digitized, it can be edited either on the Video F/X-equipped Mac or on an ordinary high-power Mac workstation using Digital F/X's Soft F/X software.

Transitions. Another important distinction for both linear or non-linear systems is the type of switching and transitions that can be added to the edited result.

Traditionally in the video world, simple off-line systems could make straight cuts between shots and segments. For more-polished projects, an on-line system was used to add a full range of video effects and transitions.

That distinction can still be applied to Mac-based systems, but the difference between off-line and on-line is beginning to break down.

Certainly, some inexpensive packages, such as Abbate Video's On-Track Mac, are meant to produce EDLs off-line. But other systems, such as the Sundance System from Sundance Technology Group of Irving, Texas, and CV Technologies' Edit Master Mac, only start as off-line "cuts only" packages in their minimum configurations.

By adding a serial-controlled video switcher and an external serial control box, these products can be upgraded to a level of on-line performance sufficient for executing edit instructions for most small and medium-size projects.

The number of simultaneous inputs also is an important parameter. In traditional video, having two or more input decks helps speed editing. And since there's no signal storage, a video switcher is needed for any transition (such as dissolves and wipes) where two or more moving images share the screen.

On the Mac, many systems offer A/B roll capability either as a standard feature or as an option. AT&T's StudioMaster offers an in-between solution: By storing the last frame of a prior segment in a NuVista video graphics card for the Macintosh from Truevision Inc. of Indianapolis, you can create a transition from the captured still frame to the next video segment that most people won't notice as any different than a standard video-to-video effect.

Hardware options. Hardware additions and configurations are yet another dimension upon which Mac edit systems can be differentiated. With the simplest systems, such as On-Track Mac, the only extra hardware needed is a special Mac-to-VCR control cable. Digital F/X's Video F/X includes a hardware control and interface unit the size of a VCR that manages the control and video signal connection between decks and sends control and status between decks and the Mac.

Several systems, such as the ARNET line from Advanced Remote Technologies; V-Lan from Videomedia of Sunnyvale, Calif.; and Edit Master Mac, use distributed control and status networks. While an interface box is needed for each unit in the system, up to hundreds of units can be chained together. Moreover, the intelligence in the interface can supervise tape movements for overlapping operations.

Other systems offer dedicated human-interface hardware to replicate some of the functions found on more traditional edit systems.

CV Technologies offers a dedicated Apple Desktop Bus-compatible keyboard for its Edit Master system, complete with special legends molded into each key.

For users who prefer the more traditional twist-dial and buttons to control tape movement, Advanced Remote sells a $595 ARNET Control Station unit that adds a jog/shuttle control and tape controls to a standard Mac setup.

Software. Several software products, such as the Sundance System or Advanced Remote's Video Publisher, emulate older list-based editors, with a purely character-based interface. For experienced tape editors who are accustomed to a list view, this type of interface can be quick and efficient.

Other systems, such as the Video F/X or the MediaMaker presentation and editing program from MacroMind-Paracomp Inc. of San Francisco, use a more visual interface based on a timeline and picons (picture icons) to mark clips and segments. Because they're more iconic and Mac-like, the visual interfaces are generally considered better for computer users making a transition into video.

But, said Steven C. Swann, director of technology for The Orange County News Channel, no one system can or should be expected to fit every situation. At his firm's Santa Ana, Calif., production facility, one type of editing system is used for news work and another for commercials.

Any edit system, he pointed out, is going to be part of a larger context. "You have to look at each of those features with your own applications and market in mind." □

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Mac rolls into character generation

By Michael Brown

A picture may be worth a thousand words, but illustrations aren't always the most appropriate tool for conveying information. Creating text for video, also called character generation, is the most vital graphic element of any video production, used for everything from opening titles ("this video is about ...") and lower-third IDs ("this talking head's name is ...") to rolling credits ("this has been an XYZ Production ...").

Traditionally, a special-purpose computer known as a character generator is used to produce text and overlay it on video. Early users who looked to harness the Mac's graphics power for character generation, however, found several problems with using the Macintosh as a character generator, including a lack of video-output hardware and limited processing power to move the text around on the screen.

That situation changed rapidly once color Macintoshes were introduced. Today, a Mac II-class machine outfitted with a high-end 24- or 32-bit graphics board can produce near-broadcast quality NTSC (National Television System Committee) video. Several 32-bit boards also can overlay graphics onto video. Software developers, catching up to improvements in both the Mac's architecture and third-party video boards, soon will offer real-time text-manipulation capabilities.

This image, created in Adobe Illustrator by Tony Isoldi of Motion Media of New York, is from a promotional animation dubbed to video. Isoldi imported the image into Adobe Photoshop, where he colorized it and used Paste controls to create the ghosted effects of the logos dropping down.

Character generation using DTP tools. Many video producers are using Mac software typically used only for desktop publishing. According to Brian Buongiorno, technical director at 525 Post Production in Hollywood, Calif., character generation is one of the primary applications for one of his company's Mac IIfx systems.

"Our clients bring in their fonts and their logos on disk. We can output them to videotape or input them into our [Quantel] Paintbox for further manipulation," said Buongiorno.

Buongiorno's favorite programs for font manipulation are Adobe Systems Inc.'s Photoshop and Letraset's ColorStudio.

"I really like the filter modules in Photoshop, but I think ColorStudio offers better control over positioning fonts against background graphics," Buongiorno said.

Typeface advantage. One of the biggest benefits the Mac offers over the traditional character generators is access to a wide variety of fonts, including the Adobe PostScript and TrueType fonts used in desktop publishing.

Many traditional character generators are limited to a few fonts provided by the manufacturer. The hundreds of typefaces available on the Mac offer a great cost alternative to programming custom fonts on a traditional character generator.

However, high-resolution text can't be smoothly scrolled (vertical movement) or crawled (horizontal movement) across the screen using a Mac unless it is animated and rendered frame by frame to videotape or manipulated using digital video effects.

Mac character-generation programs. Bola 32 from Flamingo Graphics of Cambridge, Mass., and Video Quill from Data Translation Inc. of Marlboro, Mass., offer more traditional character-generator capabilities.

Bola 32 is an object-oriented presentation graphics program that has evolved to become primarily a character generator "and that's the direction that future enhancements will take," according to spokeswoman Mary Torgersen. Bola currently uses proprietary outline fonts only, but Torgersen said an upcoming enhancement will allow the program to work with PostScript fonts as well.

Bola 32 sells for $995 and includes 52 typefaces and a texture-map library. The program and font pack can be purchased separately for $795 and $395, respectively.

According to Torgersen, an enhancement will be available by January that will provide Bola 32 with real-time scrolling capabilities.

Video Quill is less sophisticated than Bola 32, but it also is less expensive and has less-stringent hardware requirements. It doesn't offer transitions, scrolling or anti-aliasing over live video, but it does anti-alias over a PICT background.

Video Quill sells for $495, including nine typefaces. It also can be purchased with a 47-typeface font pack for $695.

Real-world titling. Tony Isoldi, president of New York-based Motion Media, uses a variety of Mac software for his video titling needs, including MacroMind-Paracomp Inc.'s Director, Adobe Photoshop and Illustrator, Specular International Ltd.'s Infini-D, and Altsys Corp.'s Metamorphosis. "For me, the biggest advantage that the Macintosh has over a traditional character generator is the compatibility with desktop publishing," Isoldi said.

Isoldi is working on an interactive videotape to supplement a new high-school math textbook. The textbook publisher is using QuarkXPress to set the type for the book, so the type on the video needs to match the type used in the book.

"I can take each Quark page and load it into Director using the Scrapbook feature, and from there lay it down to videotape," said Isoldi. "It's nothing fancy, but the type the kid sees on his television will look just like it does in the book."

Future products. Two other character-generator solutions for the Mac will be available soon. Comet, from AT&T Graphics Software Labs, should be available by year-end, while the Video Toaster Workstation for the Macintosh from Newtek Inc. of Topeka, Kan., will be available by the first quarter of 1992.

Jay Goodman, Mac artist and animator at 525 Post Production in Hollywood, used Letraset's ColorStudio to create this image for Electronic's music video "Get the Message." It was composited on-line.

According to AT&T Product Manager Len Mitzutowicz, Comet will be positioned as a "Chyron-killer," which is one of the most popular character generators used in professional video production.

Using Type 1 fonts, Comet will provide full control over text, including style, size and color. Comet also will generate 3-D type and soft-edged shadows with video transparency, and it will anti-alias text over live video.

But Comet's most important feature is its ability to smoothly move text over video by using the video processor on board the required NuVista+ graphics board. This enables Comet to create a variety of transitions between video, text and graphics.

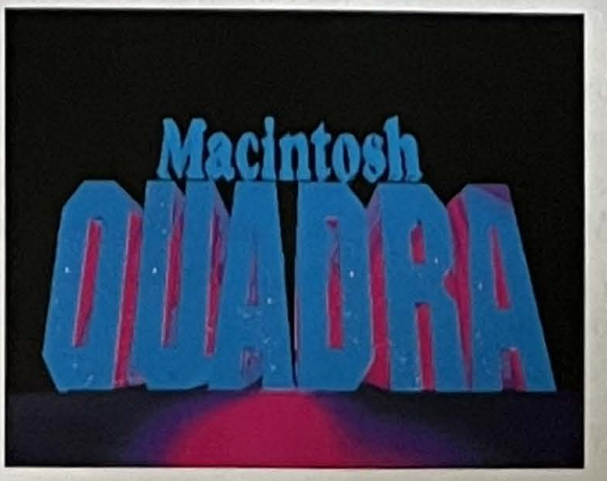
Macintosh users soon will be able to use a Macintosh-compatible version of NewTek's Video Toaster for their video productions. PostScript fonts, however, will not be one of the file formats supported by the current implementation of the Toaster's software, according to NewTek spokesman Jud Alford.

"You can create titles on the Mac, save them as PICT files and bring them into the Toaster's frame store, but you can't use them directly in the character-generator module," Alford said. The Toaster can then key those PICT-based titles over video or use them in any of the other Toaster paint or video-effects modules.

Two Mac programs have recently been announced that offer video producers character generation at a low cost. Due this month, MacroMind-Paracomp's TitleMaker will list for $149, and Video Titler from McQ Productions of San Mateo, Calif., should be available by January for less than $200. Both programs can use TrueType and also Type 1 fonts when used with Adobe Type Manager.

The Mac hasn't overcome all the hurdles to becoming a major character generator. While many cards offer NTSC video output, a high-end RGB (red, green, blue)-to-NTSC decoder is still required to achieve broadcast quality NTSC output. Also, high-end video effects or animation hardware is required to achieve professional-quality animated titles.

Still, for simple still graphics, using the Mac as a character generator is a cost-effective alternative to expensive traditional character-generation systems. □



Tony Isoldi created this Quadra title for a promotional video in Infini-D. The type is Type 1 Garamond and Machine, converted to TrueType via Metamorphosis Pro. A fractal image of lightning was mapped onto each character of the word Quadra.

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Video Glossary

A/B roll
A/B roll is a technique used in on-line editing to create transitions from one source of video to another. The video signals from the first source deck (the "A" deck) and the second source deck (the "B" deck) are then synchronized.

During the edit, a video switcher creates a transition from the "A" deck to the "B" deck while the record deck is recording.

Betacam SP
A professional video format developed by Sony Corp. for electronic field production and computer animation. Betacam SP is a component video format.

Component video
A high-quality video format that separates the RGB (red, green, blue) information in the video signal, as well as the brightness (luminance) information of each color. By keeping each major component of the signal separate, the best analog video resolution can be maintained.

Composite video
Composite video, which is also known as NTSC (National Television System Committee), combines all color and video information into one signal. While this format is universal throughout the United States, combining all the color and brightness information into one signal causes a lower-resolution video image.

Dropouts
Dropouts occur when the oxide layer of the videotape is physically scratched or oxide particles flake off from the tape. Dropout shows up on the screen as white lines, small flashing spots or garbled pictures.

EDL
The edit-decision list (EDL), is a listing of the starting and ending points of each audio and video segment that will be used in the final (on-line) edit. The EDL is created during the off-line edit.

Frame
A frame is a single complete picture in film or video. In video, a frame consists of two interlaced fields that combine to form one frame. Each field scans the odd then even lines of the video image 60 times a second. This enables video to be shown at 30 frames per second.

Hi-8mm
A small-size consumer and industrial video format created by Sony Corp. that records y/c video onto 8mm tapes.

Off-line editing
Work copies of raw footage are edited together to make an approximation of the finished product (a rough cut). This is typically done on an inexpensive editing system.

On-line editing
The final step in video editing, in which raw video footage is edited together with transitions and special effects on high-end video equipment. On-line video-editing suites are much more expensive than off-line.

Non-linear editing
A film-style approach to video editing that is made possible by computer control and/or video digitizing. Unlike in linear video editing, which proceeds from beginning to end, film editors typically splice segments of film together and are able to easily work in a random order without having to start over each time footage is added or subtracted. By using either digitized video, laser-disc technology or both, a non-linear video-editing system makes it possible to quickly rearrange the order of any section in the show.

SMPTE timecode
SMPTE timecode is a timing standard for videotape that was developed by the Society of Motion Picture and Television Engineers to make it possible to precisely locate any individual frame on a videotape. SMPTE timecode is used in professional video-editing systems to ensure frame-accurate audio and video edits.

S-VHS
Developed by JVC Corp., this enhancement of the VHS format is replacing older 3/4" U-Matic systems in the industrial video format. S-VHS is a y/c format and has high-fidelity stereo audio capabilities.

3/4" SP
3/4" SP is an upgrade of the 3/4" U-Matic format, which was the standard for industrial and broadcast production for many years. 3/4" SP adds improved y/c video signal and high-fidelity audio capabilities to the U-Matic format.

y/c
A type of component video signal found in S-VHS, Hi-8mm and 3/4" SP video formats that separates a signal's brightness (luminance) and color (chrominance) information to maintain better picture quality. This is an intermediate step in image resolution between standard video (composite) and component video.

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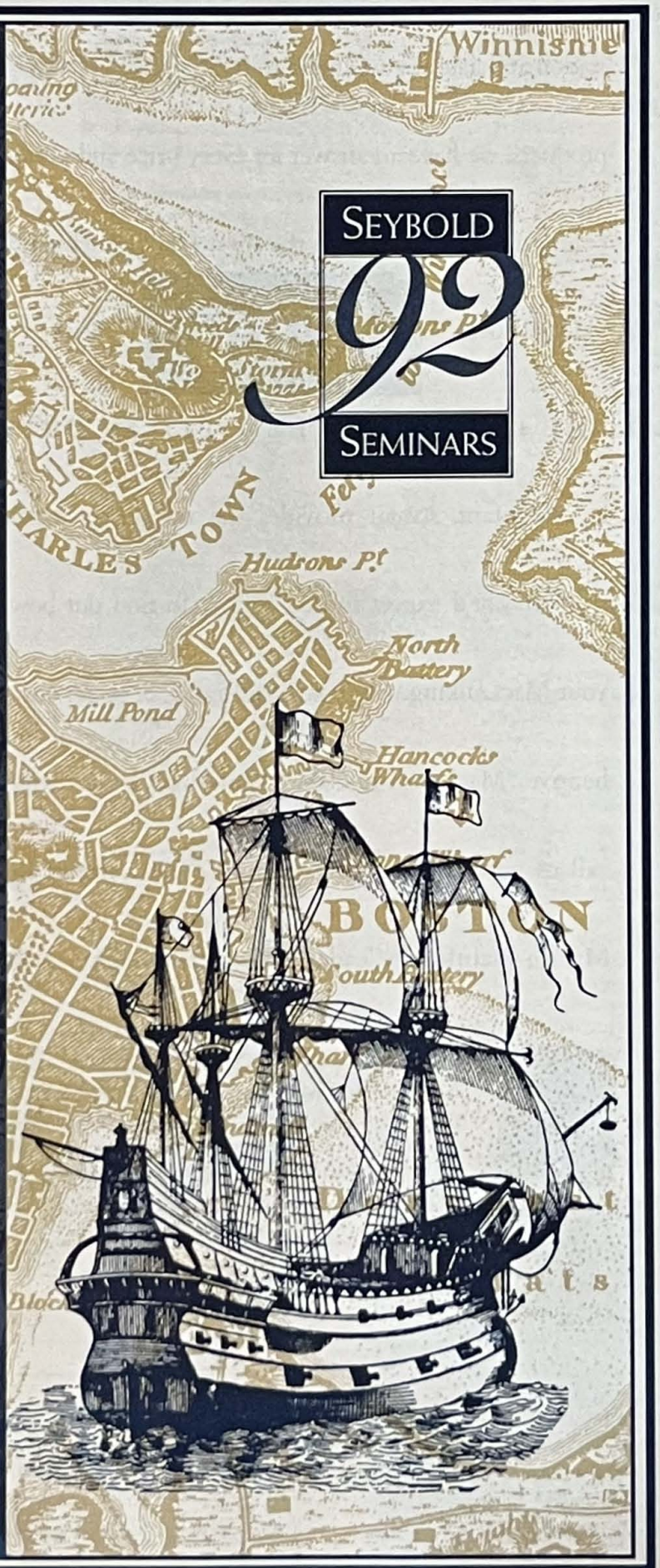

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New Media STEVE ROSENTHAL

Parity would be music to the ears

With all the drawing, presentation and animation tools now available on the Macintosh, you don't have to be a top artist to prepare quite serviceable visuals. But if you want to add original sound to your presentation — and for maximum effect there are many instances where you should — it's not quite so easy.

Of course, there are plenty of tools available on the Mac for capturing sounds, cutting and pasting sound waveforms, and even pairing sounds with actions. For many types of training and presentation applications, this sort of low-level recording and editing using medium-fidelity sound might be quite sufficient.

But it's a bit like doing all your visuals in MacPaint. To create sophisticated original works, you need a lot of talent and a lot of time. If your immediate interest in sound and music is creating the proper audio tracks for multimedia, this almost pointillist approach might not be a good solution.

What we want, it seems to me, is aural parity. We want object-oriented, context-sensitive musical construction tools. Not the composer's tools we have now or the notation tools or the Musical Instrument Digital Interface tools for arranging playback. Rather, we need some reasonable facilities that would let users who are not particularly musical create useful sound accompaniment.

The way I see it, this sort of tool might start with one of the "arpeggiator" (musical bridge) settings on most electronic keyboards. You pick a tempo, a few starting notes or chords and an instrument sound (which electronic musicians call a "voice"), and the package turns them into useful, if not quite memorable, melodies.

Successful desktop audio tools also could bring out the composing ability that many people already possess but haven't had time to discover.

If you don't even know the best tempo and chord, you'd pick out a style on a musical palette — maybe something labeled "background modern light" or "announcement bold." Some selections would be part of musical "families" that could be fitted together, but other items might be too idiosyncratic to work any way but alone.

Maybe the base model would just give you some simple isolated melodies. As you move up the scale, the program might offer expert advice on making selections and smooth transitions between selections. You'd have optional settings, such as "sharpen" or "blend into background" in some tools as well.

If you constructed a sound accompaniment with this approach, you could always go to waveform format for integration with existing programs or a bit of touch-up work. But going from the waveform format to an audio script might still be a fairly long way away.

Would a system like this be an affront to working composers, a triumph of the mechanical arts over the creative spirit? I don't think so — any more than a drawing program is a threat to visual artists. While there might be occasional instances where users who would have paid composers to create a soundtrack instead turn to the computer, composers who master the new medium also could use it to offer better work on a wider scale.

Successful desktop audio tools also could bring out the composing ability that many people already possess but haven't had time to discover. Some people will discover they might not know much about musical notation, the technology of sound effects or the mechanics of audio dubbing, but they do have a gift for specifying and arranging sounds.

If we're ever going to realize the dream of making every multimedia user a creator as well, we need these tools, and we need them in affordable, easily obtainable form. Otherwise, we might see our own efforts in multimedia go the way of the silent movie. □

Send tips and comments to Steve Rosenthal, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; AppleLink: Steve.R; MCI: 114-8611.

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Boldface EZRA SHAPIRO

Back to the DTP bookshelf

Way back in 1981, Bob Gill published an oddly inspirational book titled "Forget all the rules about graphic design. Including the ones in this book" (Watson-Guptill). It's a collection of Gill's solutions to design problems he'd faced throughout his prolific, 30-year career. Many of these are essentially visual puns of one sort or another. (For example, there's a logo for a publication called Anti-Apartheid News that uses the word "apartheid" crossed out with thick, black crayon strokes.)

I don't necessarily recommend buying the book, because you can get the idea by simply flipping through it in the store. However,

I've come to loathe the technique of comparing hypothetical "bad" layouts with hypothetical "improved" ones. It's rather tough for a decent designer to create truly useful rotten examples.

"Forget all the rules ..." is certainly an important reminder about the role of creativity and lateral thinking in design.

Gill's title pops into my head every time I gather the courage to wander through a pile of books about desktop publishing. Most of these are about nothing *but* rules, an approach guaranteed to take you all the way from ignorance to mediocrity, and no further. What's worse, I've come to loathe the technique of comparing hypothetical "bad" layouts with hypothetical "improved" ones. In my experience, it's rather tough for a decent designer to create truly useful rotten examples — sort of like a musician trying to sing a well-known song with a couple of wrong notes. It's similarly difficult to design a top-quality example without the challenge of real-world constraints; the results are usually pretty, but somehow flat. Chief perpetrator Roger Parker's "Looking Good in Print," crammed with dogma, is an example of the first sort, and his "Makeover Book," crammed with insipid layout, typifies the second.

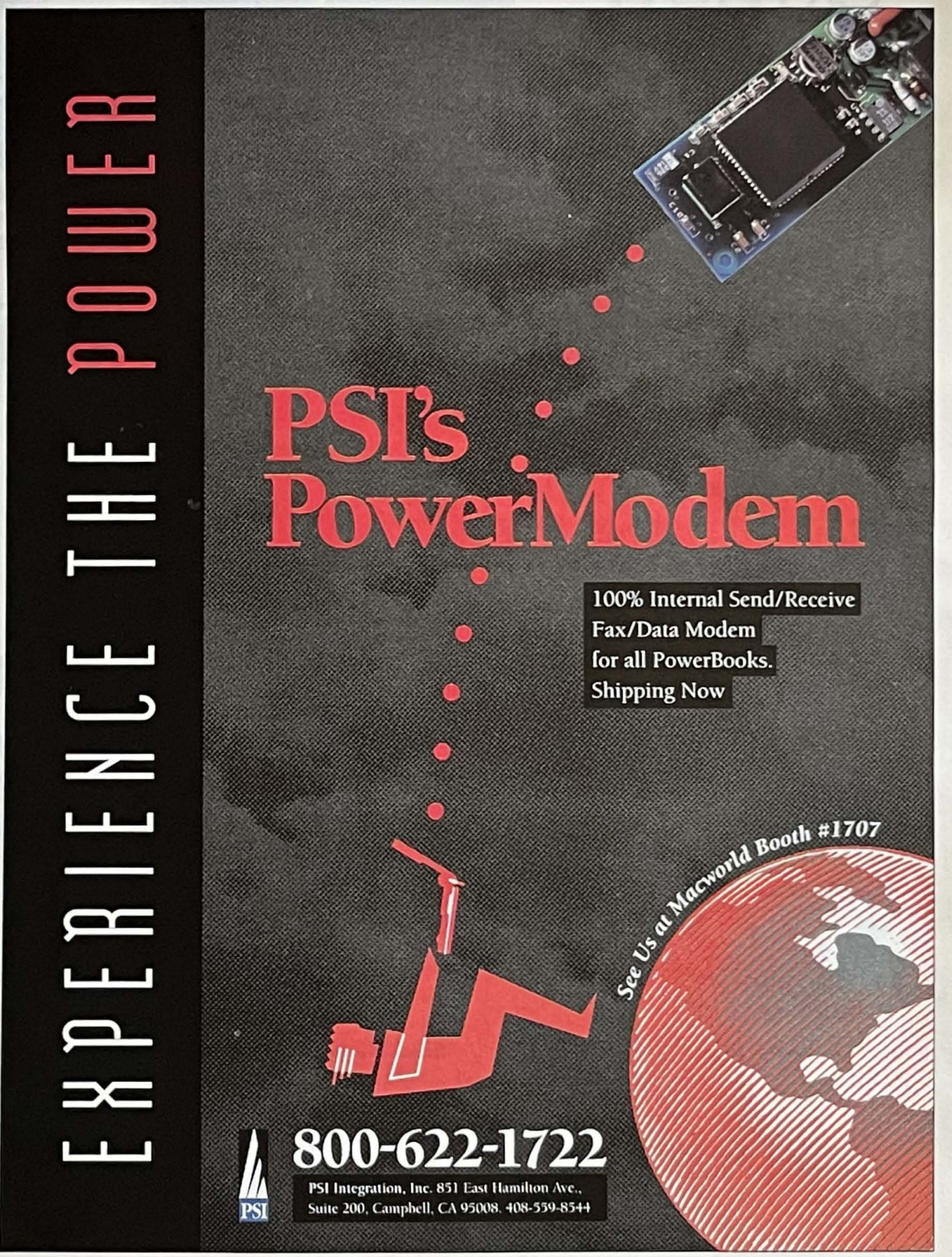
The good news is that the flood of these annoying tomes has dwindled to a steady trickle; the bad news is that while today's authors are lighter on the rules and the uglies, every last one of them feels impelled to rewrite the same boilerplate paragraphs about fonts, scanners, PostScript, Macs and so on. However, there are some bright spots.

My favorite recent find, "Collier's Rules for Desktop Design and Typography" (Addison-Wesley), is a browser's delight. A general overview of the field, it doesn't say anything really new, but the circus-style format is fast, fun and full of informative tidbits. David Collier has provided the perfect training aid for someone who doesn't want to slog through a traditional tutorial book.

"Roger Black's Desktop Design Power" (Bantam), is about average in its discussions of mechanics; you can find the same material elsewhere, and magazines do a better job of keeping you abreast of technology than any book ever published. However, Roger Black's asides on the art of publication design, communicating with readers and developing riveting covers, are worth the price of the book. And the sample layouts are all taken from Black's portfolio of award-winning designs.

"Desktop Publishing Success" (Business One Irwin) from Felix Kramer and Maggie Lovaas is one of the few introductory books that doesn't try to tell you how to design anything. It's a handbook for anyone who wants to go into DTP as a business, and it talks about concerns such as billing, self-promotion, incorporation and health insurance, as well as the ubiquitous explanations of equipment and software. If you're intrigued by the idea, this book is the place to start. Lots of good resource information, too.

Even Parker, my nemesis, finally seems to have learned how to be helpful without being doctrinaire. His latest, "Newsletters from the Desktop" (Ventana), is aimed at the newsletter publisher or editor who doesn't have a clue about DTP. Because of its wide scope, it's not for the experienced pro, who will be bored to tears with the rehash of the basics that typifies all these books. But there are more suggestions than rules, the case studies are all real publications, and the book is crammed with resource material. Not bad, Roger! □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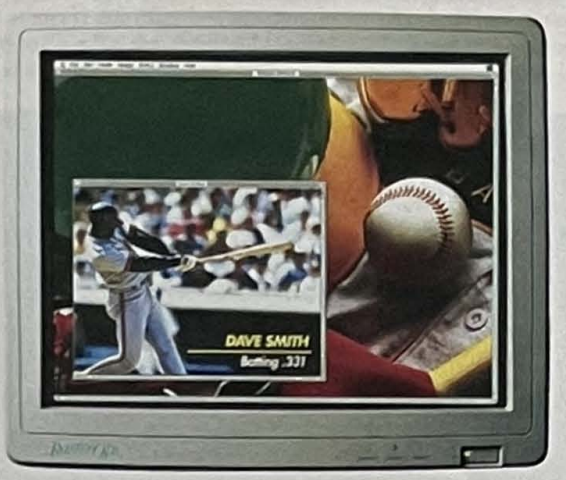

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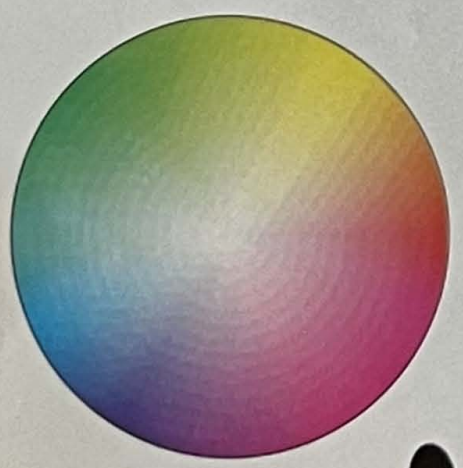

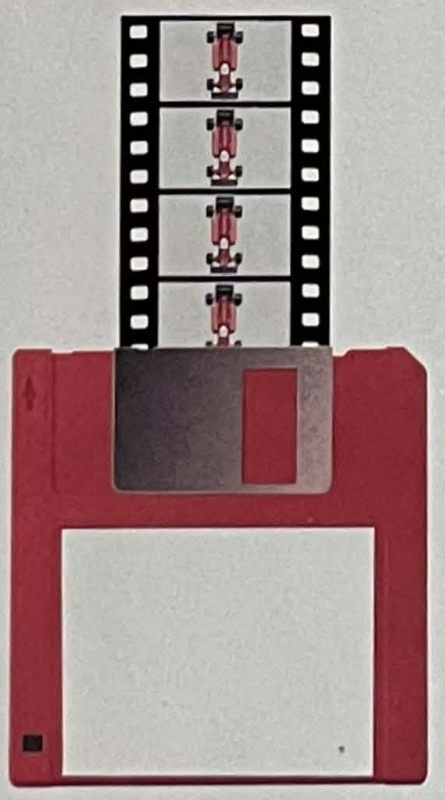

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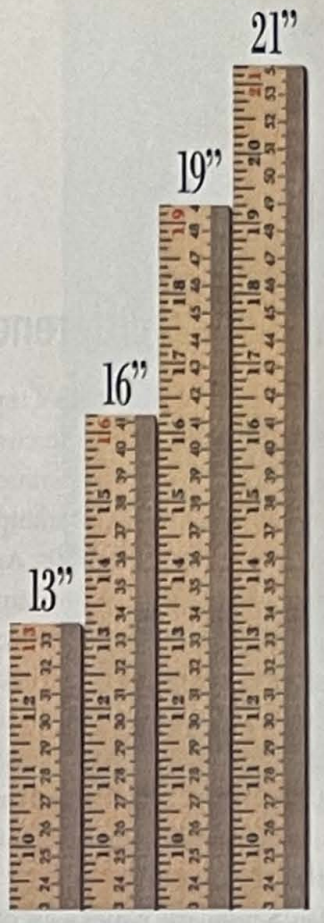

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EDITORIAL

Mac users can make a difference

We've all heard the complaints. Apple has a reputation for developing products in a vacuum. As a result, customer input on Apple products and services doesn't have much of an effect on what the company offers to the marketplace.

While that might have been true in the '80s, Apple is showing signs of becoming more accessible to user input in the '90s. And that is important to note. For too long companies such as Apple arrogantly ignored input from their customers.

In part, this new orientation has been precipitated by active user groups. Two professional user groups, Managing Apple Computers in Information Systems and the Macintosh Consultants Network, exemplify how user organizations can be successful in affecting the Mac.

Now 3 years old, MacIS regularly issues a list of action items that its members believe will help them integrate Macs into their organizations. MacIS members work in Fortune 1,000 companies, so they carry considerable clout with Cupertino.

Last month Apple credited MacIS' feedback for the size, weight and capabilities found in the PowerBooks; Ethernet built into new CPUs and printers; one-year warranties; low-cost Macs; and fee-based support lines.

Although historically not as vocal with its input, MCN also has had an effect on Mac development. Because it represents the professional consultants, the experts hired by MacIS' membership to help develop and design their Mac systems, this group's concentrated experience of what works and doesn't work is a resource that is being tapped by developers more and more.

At its seventh international conference last month, MCN issued its first list of action items for Mac vendors, a companion to MacIS' list that should help add weight to both groups' influence on future Mac development and strategy.

But the success of MacIS and MCN has been directly proportionate to the level of activism within the organizations. Groups such as MacIS and MCN, local user groups and AppleLink all provide paths for customer input. And Apple's recent behavior has shown that the company is willing to listen, really. So, if you care about Apple's products, it's up to you to get involved and communicate your opinions. □

3 years ago in MacWEEK

Dec. 6, 1988: High-end competitors to HyperCard were announced to "a mixture of excitement and skepticism."

In retrospect: SuperCard, now marketed by Aldus Corp., and PLUS, now from Spinnaker Software Corp., have matured into niche products, despite boasting features that HyperCard users have long requested.

Letters

BellSouth evaluates ISDN on more than raw speed

The article "ISDN may be too little, too late" (MacWEEK, Oct. 15) offers a rather shortsighted view of the advantages of ISDN, focusing solely on ISDN's speed of transmission. When you evaluate speed alone you overlook the real strengths of this emerging, public-switched digital service.

ISDN (Integrated Services Digital Network) allows the transmission of voice, data and eventually video services simultaneously over a single digital link. Because ISDN is a totally digital network, it transmits both voice and data signals more efficiently — and in a far more flexible and cost-effective manner than the LANs in use today.

ISDN is a public-switched service that is being built to a national standard. The Bell operating companies, Bellcore, The Corporation for Open Systems, the American National Standards Institute and switch vendors have all cooperated to develop national standards for ISDN. When customers gain access to ISDN, they will gain access to a network built to national standards.

In turn, the standards that support the nationwide implementation of this service also provide other enhancements to the public network. A primary example is the automatic number identification (ANI) feature of ISDN that allows users more control over their telephone calls.

Compared with other methods of exchanging information among corporations, groups or individuals, national standard ISDN is what is needed, when it's needed. It offers far too many advantages for it not to remain as a front-runner in the telecommunications race.

Edward H. Tyler
Manager
Product Management
BellSouth Corp.
Birmingham, Ala.

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NSA has better things to do than crack DSS

One of the key issues in the story about the National Security Agency's secret involvement in the new Digital Signature Standard (DSS) (see MacWEEK, Nov. 5) was professor Ronald Rivest's calculation that $25 million worth of computers could crack the DSS 512-bit key with (only) six years of calculation time. It is consequently true that $410 million worth of computers (the sort of resources only the NSA could afford) could crack the same key in only 19 weeks. So what? Are some people actually worrying that the NSA will forge their digital signatures and interfere with their company's digital transactions? Do they think they're that important?

The technological issue here is that these encryption algorithms could be applied not just to digital signatures but to entire messages as well. This is of vital concern to the NSA for good reason. The emotional issue is a feeling of loss of control and a fear of "Big Brother." It's rather like when people discover there's pesticide residue on their vegetables. There's a feeling of loss of control. The fact that the amount of pesticide detected creates an increased risk of one cancer per million people per lifetime is beside the point for them. Yet they'll hop in their cars and drive to the store without buckling up. The difference to the individual is that he or she has control over the latter risk.

Now these are understandable emotions and it's OK to question clandestine governmental involvement in private commerce, but one

GORDON STUDER

should at least understand the national security issues at stake here. How do people think the NSA gathers evidence such as how Libya ordered the bombing of the German nightclub? Do we really want the next Saddam to be able to send messages to his generals that can't be broken in less than a week? Is it really worth compromising the NSA's ability to gather signal intelligence just so we can send electronic mail with the smug satisfaction of knowing that not even the NSA could forge the message? Maybe we can trust the government a little bit on this one. Though the DSS could be tougher to break, it's more than tough enough for the job.

Greg Lloyd
Spokane, Wash.

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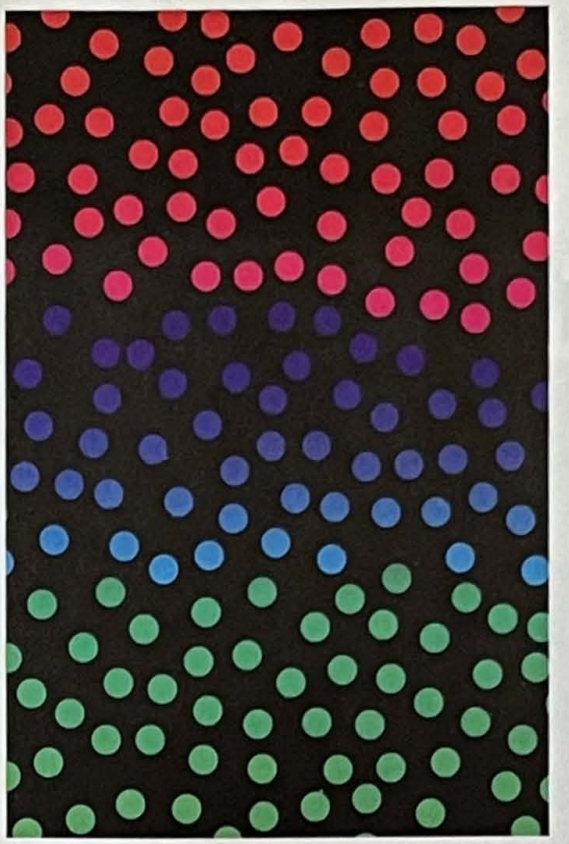

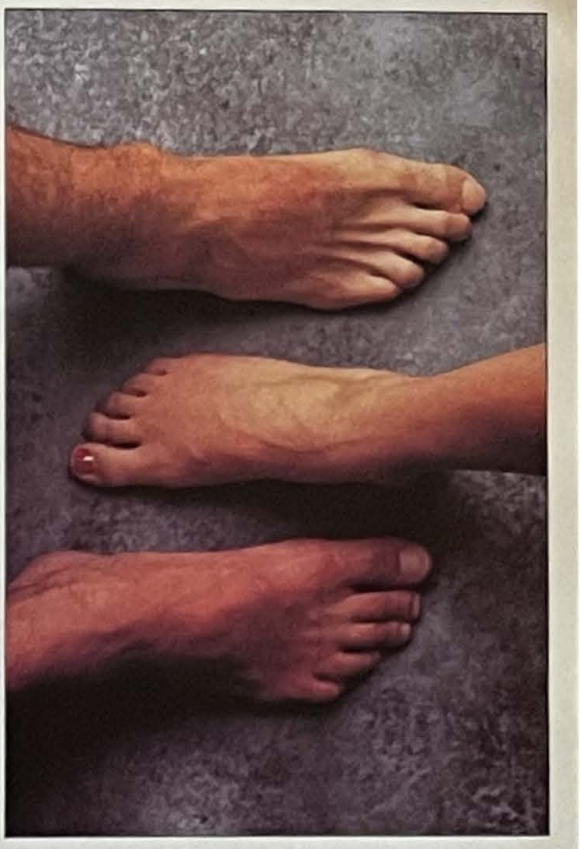

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The dots: The UC630 outputs 600 of them to an inch. Other vendors choose to sell 300 dpi scanners that use software to bump the resolution up to 600 dpi. The software manipulation works, but the image quality is perceptibly less than from a 600 dpi machine. Like ours.

And finally, what about those feet? A reference to UMAX's brutal drop test: We pick up a UC630 (in its original box), and drop it. Three feet down. And what happens next? It works. The optical mirror even realigns itself automatically.

Look, we're already out of space and haven't even touched on the UC630's speed (up to 60% faster than others), optical precision (a system given top marks by *MacUser* and *MacWorld*), or dynamic range (accurate readings of 16.8 million colors, and all 256 shades of gray). Not to mention our 24-hour turnaround for repairs, and the free Adobe Photoshop™ we include with every UC630.

So do us both a favor: Call 800-562-0311 for your nearby UMAX dealer, and come take a look.

You'll see we've kept a few other surprises for your visit.

Top Rated Scanner
–MacUser, December 1991

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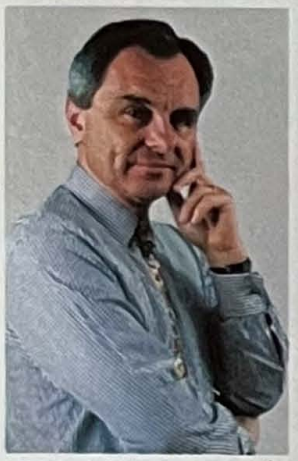

JEAN-LOUIS GASSÉE

Developing a foolproof system that handles font substitution as well as a document interchange standard has been an Achilles' heel for the personal computer industry.

Commentary

Riding the Carousel of document interchange

If you have created a Macintosh-based presentation, you most likely have been embarrassed or frustrated at one time by the unpredictability of what gets displayed. I recall, for example, a presentation given by Don Casey, who was then the Apple vice president of networking and telecommunications. Twenty-one years at IBM hadn't dulled Don's love of computers. He painstakingly prepared his own presentations using MacroMind Director.

In this particular instance, everything went wonderfully, except that the document on the screen looked strange. Unfortunately, fonts used in the original document were not available on the machine used for the presentation, causing much frustration to the author, a great deal of running around looking for font disks, and a séance with the Font/DA Mover. Those were prehistoric days, before System 7.

Poor substitutes. That is a typical example of a general problem with "rich" text documents. They contain references to typefaces, such as "use Times Roman," but the typefaces themselves are not available on the host machine. To play successfully on another machine, the expected font in the expected size must be supplied. Otherwise a substitution takes place, often with annoying — if not catastrophic — results. The document doesn't look right, or worse, it's totally useless.

The damage stems from a simple fact: Each typeface has its own metrics, or way of occupying space on paper. For example, 12-point Times Roman occupies less space than 12-point Helvetica. And that is a simple case. For the same face, the metrics change with the vendor; within a face each character and set of characters has its own metrics, such as ligatures and kerning.

Substitute one font for another, and you change the length of a line, a paragraph, a page break, the relative position of text to illustrations and the pagination. Even if you don't lose a bit of the document's stored or transmitted contents, you damage its aesthetic integrity and, to a degree, its meaning.

Developing a foolproof system that handles font substitution as well as a document interchange standard has been an Achilles' heel for the personal computer industry.

Carousel. For some time, Adobe Systems Inc. has been proposing PostScript as a solution. Currently, personal computers translate a document into a series of PostScript statements expressed in plain ASCII text and ship it to the printer.

Adobe has been working to complete the chain with Carousel, a technology that will provide translators from PostScript statements back into any platform's standard document formats. At least that could provide a lingua franca of document interchange for display, printing and, to some degree, editing purposes. However, the annoying problem of the missing typeface remains.

Multiple Master fonts. Adobe also has a fix for this problem in the guise of Multiple Master fonts. Ordinary fonts do not take kindly to being stretched or squeezed on the printed page. Multiple Master fonts are designed to undergo this kind of torture and yet produce a pleasing result.

Here is how Multiple Master neatly substitutes for an absent typeface: Instead of just outputting ordinary PostScript statements, the translator now also captures the metrics associated with the fonts in a document. At the other end, if the requested typeface is missing, the translator substitutes a Multiple Master font, stretched or squeezed to fit the exact metrics of the original font.

No more layout perturbation or document reformatting surprises. And the document still looks good, which is no trivial type-design feat.

If the industry goes along with Adobe's Carousel, we might have, at long last, genuine cross-platform document exchange that maintains precise formatting. It won't require changes to any document format, file system or imaging model, and outputting to PostScript is already agreed upon. All this, even before the advent of open systems. □

MacTOON

If a disk crashes in the forest, does it make a sound?

The Mac Manager

Building strategic tools with multimedia

Few computer-based technologies have received the amount of hype that multimedia has in the past few years. Unfortunately, the hype has left most computing professionals cold. Indeed, many Mac managers I've talked with believe that multimedia is of interest only to their graphic art departments.

The cart before the horse. The problem is that multimedia authoring systems are way ahead of available delivery systems. Who cares if you can create a multimedia presentation if you need expensive, high-end Macs to display your work? What's more, many authoring systems assume the user has an artistic bent. And that has served to raise a psychological barrier preventing Macintosh managers from viewing multimedia as a strategic tool.

This should change this month when Apple releases QuickTime. And it behooves us all to understand how this new technology can help us solve business problems.

Get in on the desktop. QuickTime is a new system-software extension that manages events occurring over time — such as sound, animation and video — much the way QuickDraw manages how still images are drawn on the Macintosh's screen. In short, QuickTime integrates dynamic media. Plop the QuickTime extension into your System 7 folder, and you have created a multimedia delivery system.

Sure, that's impressively easy. But the real importance of QuickTime is that it lets managers deliver all kinds of information on most Macs. Even black-and-white displays like those on the Classic and Classic II will be able to take advantage of QuickTime — albeit at a less realistic level than an eight- or 24-bit-color display.

With that single piece of technology, Apple has managed to legitimize multimedia in the Macintosh world.

And that is why managers need to take notice of QuickTime, *now*.

Information system uses. While you probably won't be authoring QuickTime-based applications on monochrome Macs, you will be able to display the fruits of those developmental efforts without having to add expensive frame-grabbers, laserdisc players, sound-boards or other media esoterica. Now you have multimedia delivery systems you never had before, without additional costs.

More important, QuickTime promises to change the kind of information you can deliver. The technology will empower you to more fully serve all your users, ranging from assembly-line workers needing fixed safety information to executives requiring ever-changing marketing data. Why?

Because that information no longer will be limited to text and graphics. Adding moving pictures, video and sound to any application ratchets up its information content. In fact, QuickTime should allow Macintosh managers to create entirely new in-house applications that further the Mac as a strategic resource.

Consider, for example, the case of the factory manager who is designing a new critical assembly system. By incorporating sound and video, the system can more easily and quickly communicate what's important in terms of tools, assembly and safety.

DON CRABB

But don't limit yourself to the obvious. Besides training, nearly every current business application can benefit from the inclusion of multimedia data. Imagine decision support systems, inventory systems or even accounting systems that communicate much more naturally via multimedia components. And all these will be made affordable (both in terms of time to develop and cost to display) thanks to QuickTime.

More than even System 7, QuickTime shows Mac managers just how good Apple can be when its heart and mind are in the right place. Finally, we can all move beyond the hype and into the reality of multimedia. □

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SyQuest

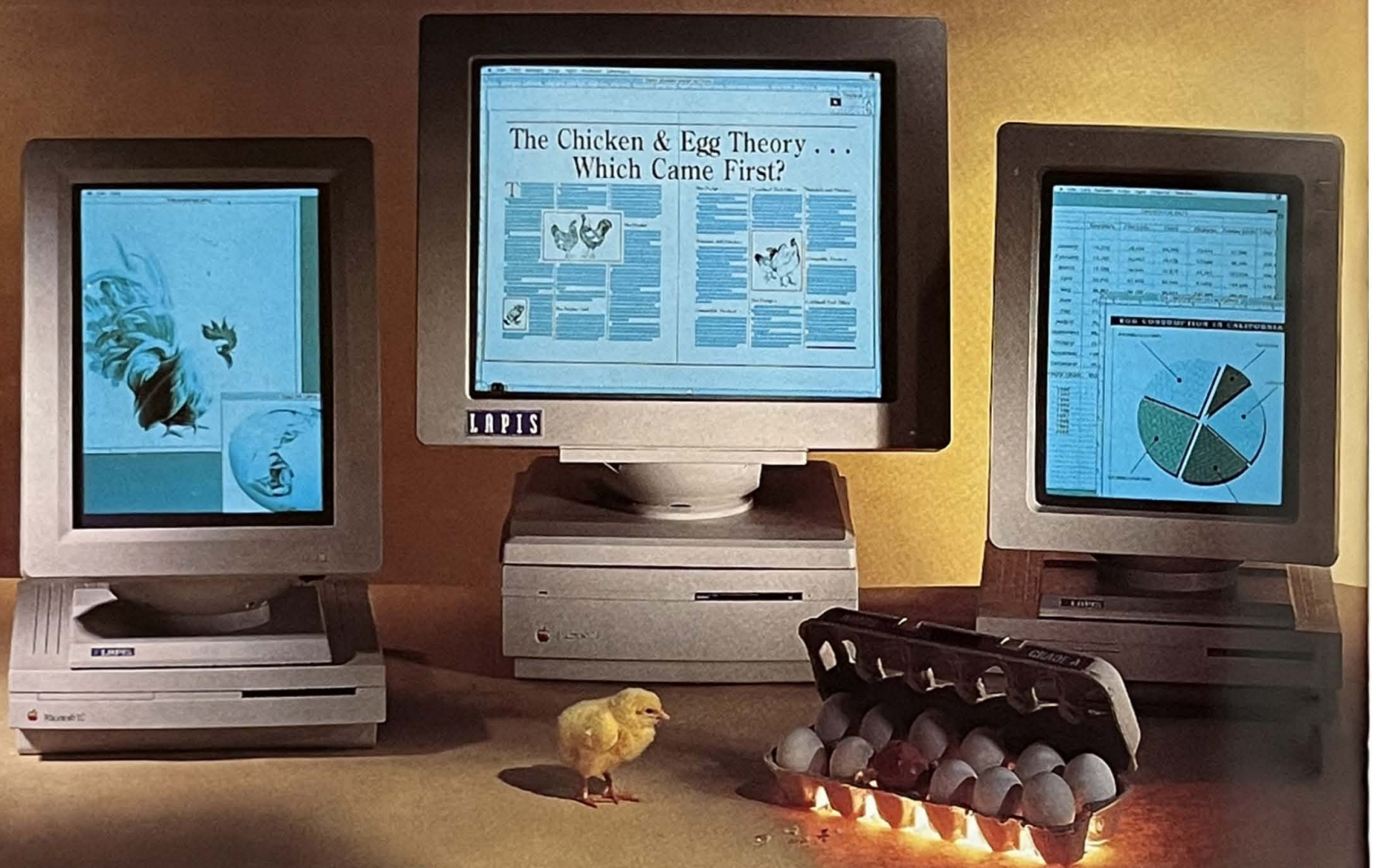
DP-WK1203

Which Comes First...

Dual Page Monochrome Display with Video Card
Screen size (flat) — 19 inch diagonal
Resolution — 74 DPI WYSIWYG (same as Apple Two Page)
Vertical Refresh Rate — 75 Hz

Full Page Monochrome Display with Video Card
Screen size (rounded) — 15 inch diagonal
Resolution — 80 DPI WYSIWYG (same as Apple Portrait)
Vertical Refresh Rate — 75 Hz (same as Apple Portrait)

Full Page Gray Scale Display (256 shades) with Video Card
Screen size (flat) — 15 inch diagonal
Resolution — 80 DPI WYSIWYG (same as Apple Portrait)
Vertical Refresh Rate — 75 Hz (same as Apple Portrait)



The Display Card or the Display?

Silly question. For Lapis owners that is. You won't have to spend another second debating which comes first, because at Lapis they both do. Take our cards, for instance. For those of you who already have a monitor, we've got the most comprehensive line of display cards to drive it, both monochrome and color. We also have display cards for every Macintosh computer. In fact, you'll never have to go anywhere else for a display card. We've got all the bases covered. And when you turn to Lapis for a display solution, whether dual page monochrome, full page gray scale or full page monochrome, you'll get more than just a monitor, you'll get an entire system, Lapis card and all. You see, sometimes it's okay to put all of your eggs in one basket.

Lapis has a full line of Apple-compatible, fixed and programmable, display cards.

So whether you're in the market for a display card or a complete display solution, Lapis makes sure that you'll always come out first. Of course that also goes for our service and support. We'll answer every question you ever wanted to ask when you call our technical support line. (Just don't try that chicken and egg one, it gets 'em every time.) Just call us at **1-800-43-LAPIS** for the location of the nearest Lapis dealer. Any more questions? Good.

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Reviews

- Comparison: INtouch and TouchBASE. See Page 64.
- Schedule Publisher. See Page 65.
- NetDistributor. See Page 65.

Claris integrates with innovation

New ClarisWorks builds a better suite

By Dale Coleman

ClarisWorks is yet another "integrated" application: It includes word processing, a spreadsheet with graphics, a database and telecommunications. In the past, this category has been dominated by Microsoft Works (see MacWEEK, Dec. 6, 1988), despite its relative lack of integration among the several applications. Symantec Corp.'s GreatWorks, introduced earlier this year (see MacWEEK, July 30), upped the ante by increasing the level of integration somewhat, while adding an outliner and vastly superior graphics-handling capabilities to the mix.

Claris Corp.'s new application represents a giant half step toward the goal of true integration because of its creative use of "frames." Three of the five kinds of ClarisWorks documents (word processing, spreadsheet and graphics) can contain frames of any of the three types. For example, while working in a word processing document, you can open a spreadsheet frame. When you place the cursor in a frame, the menu bar changes to reflect the nature of that frame. The database is integrated only into the rest of the application in that you can easily construct mail merge documents with the word processor. The communications module is not integrated with the rest of the product.

The three selected text frames in this illustration are linked, so the text flows from the left column to the right. The 3-D bar chart is live and derived from a spreadsheet that has been sent behind the main document.

SCORE CARD
ClarisWorks
MacWEEK

Overall value	●
Performance	●
Features	●
Ease of use	●
Documentation/support	●
List price	$299

● Excellent ● Very good ● Good
◉ Average ○ Below average

ON BALANCE
ClarisWorks
Claris Corp.
MacWEEK

ClarisWorks is a flexible, easy-to-use integrated application that includes a word processor, a spreadsheet with charting, a drawing module, a database and a telecommunications program. Various types of documents may be freely mixed thanks to clever implementation of frames. The modules closely resemble parallel Claris-dedicated applications, but XTND-compatible translators for most of those applications are conspicuously absent.

Frameworks. Frames are the key to ClarisWorks' deserved claim of a higher degree of integration than is available in other products. Although the concept of frames can seem foreign to users with no previous frame exposure, they are quite easy to use.

ClarisWorks frames are drawn with one of three frame tools: graphics, text or spreadsheet. A tool palette, containing icons for each of the three frame-drawing tools, can optionally be displayed at any time. The remainder of the tool palette is composed of the standard object-oriented drawing tools, including fill and pen color and pattern palettes. Any pop-up palette from the tool palette can be torn off and parked anywhere on the screen. Parked palettes are always displayed in the current window — a feature that may or may not aid productivity, depending on your work habits.

The power and flexibility of the frame-based design can be best illustrated by a simple example: If you need to create a basic newsletter with columns of varying width, your first impulse might be to open a word processing document. But columns in a word processing document can only be of uniform length. The correct ClarisWorks approach is to open a new graphics document, then use word processing frames, which can be linked, to create the text columns for the newsletter.

The bottom line of ClarisWorks' frame-based design is that it is easier and faster to create typical documents. We were able to create a simple business report containing spreadsheet data, a related chart, graphics and text in irregular-width columns in just a few minutes, with greater ease than with any other application or group of applications we've used.

Claris to go. Claris has gone to great lengths to ensure that the interface of each ClarisWorks mod-

See ClarisWorks, Page 60

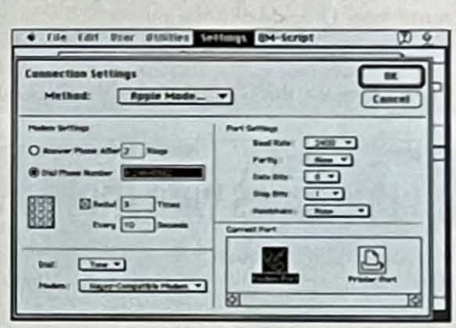
QuickMail 2.5 delivers PC access, new server capabilities

By Shelly Brisbin

CE Software Inc.'s QuickMail, the leader in Macintosh electronic mail, is trying to make a splash in the IBM PC and compatible mail market in an unusual way: Version 2.5 includes PC software and documentation in the basic package. For mainstream, multiplatform networks, you need a Mac-based mail server along with a file server and network operating system for PCs that has at least one AppleTalk connection. Add System 7 compatibility, some new server features and a few tweaks for users, and you have the new QuickMail 2.5 in a nutshell.

PC o' my heart. PC mail clients communicate with Mac clients via a store-and-forward mechanism that's typical of cross-platform E-mail. As before, a Mac runs the QM Server extension in the background. The QM Administrator application, which usually resides on the server Mac, manages all user accounts and gateways. The Administrator Mac must be connected to a PC file server to send mail to PC clients. Mail addressed to PC clients (from either Macintosh or PC users) is placed in a hierarchy of directories on the file server. When a PC user runs the QuickMail client software, it checks that user's directory for new mail. Mail moving from PC to Mac is stored on the file server and picked up periodically by the QM Administrator and forwarded.

Mac and PC mail accounts must be managed separately, which may be inconvenient. The Macintosh version is somewhat lacking in its verification and updating of mail addresses, and the PC version is worse.



QuickMail's gateways now use the Macintosh Communications Toolbox under systems 6 and 7.

QuickMail networks can include any combination of Macs and PCs. Network operating systems supported include Novell Inc.'s NetWare, Banyan Corp.'s VINES, 3Com Corp.'s 3+Open and Microsoft Corp.'s LAN Manager. As with previous versions, PCs may be connected to QuickMail if they have AppleTalk protocols and a LocalTalk or Ethernet card installed. In this case, the client software is loaded onto the PC and served by the Mac directly; no separate file server apparatus is needed.

QuickMail for DOS looks similar to its Mac counterpart, though with graphic characters rather than a true graphical user interface. The software does run in the DOS compatibility box under Windows on appropriately equipped machines. DOS users will be pleased with the look, but Windows users will not.

Bit-mapped graphics cannot be made a part of mail forms, nor can Mac pictures be sent to a PC. The PC version's keyboard shortcuts are not user-configurable, as they are on the Macintosh. Users report that some QuickMail features collide with other PC software, such as Novell's Print Manager. When this network print server is in use, audible and visual mail notification is disabled, as are some keyboard shortcuts.

The DOS version is bundled on 3.5-inch disks. Users can request 5.25-inch disks and the OS/2 version of the software from the company. The company expects to ship the finished version of the OS/2 software in January; it will be free to current customers. A beta version is available now for anyone who wants it.

Serving it up. With a few exceptions, the differences between Mac QuickMail 2.2.3 and 2.5 are apparent to the E-mail administrator, rather than users. Among the nicest changes is the new single-copy architecture. Rather than creating a sepa-

See QuickMail, next page

SCORE CARD
QuickMail 2.5
MacWEEK

Overall value	●
Performance	●
Features	●
Ease of use	●
Documentation/support	●
List price	$599*

● Excellent ● Very good ● Good
◉ Average ○ Below average

** For 10 users; $4,699 for 100.*

ON BALANCE
QuickMail 2.5
CE Software Inc.
MacWEEK

QuickMail 2.5 is not a major upgrade for Macintosh users, but it does offer a few cosmetic changes, as well as support for Apple's Macintosh Communications Toolbox. Its value will be greater, however, for managers of mixed networks who now can mix and match QuickMail on MS-DOS and OS/2 IBM PCs and compatibles as well as Macintoshes. The price is still fair and the product is still a robust solution.

QuickMail

From previous page

rate copy of every message and file mailed to multiple recipients, QuickMail stores only one copy on the server. (Sending a message to another server creates a second copy.) The advantages are significant space savings on the server and better performance when sending mail.

Another space-saving option lets the QuickMail manager set the maximum number of messages users can store on the server as well as a cap on the number of entries in their mail logs. QuickMail still allows users to file any number of messages on local hard disks. The new version now creates a folder for this purpose when the software is installed.

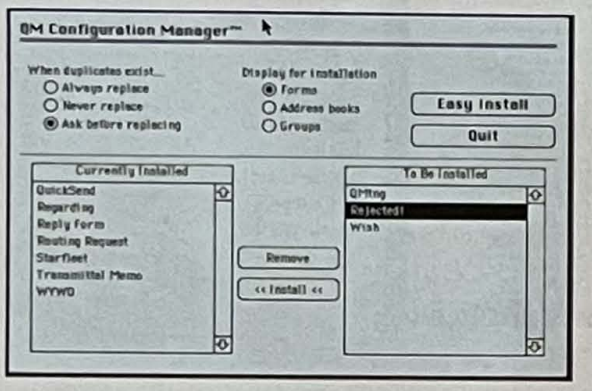
It has always been possible to use a QuickMail server as a workstation, given a light load, sufficient RAM, and a user who is not hungry for peak performance. But, to the hassle of waiting while the server handles mail, CE Software has added the inability to format floppy disks while the server is on-line. Realistically, anyone planning on setting up QuickMail for more than a handful of users should factor in the cost of a dedicated server, unless you've got an AppleShare server on which you can safely run the mail extension.

Neither CE Software nor Apple could confirm whether QuickMail 2.5 will be compatible with Apple's recently announced AppleShare 3.0.

Remote control. CE Software's mail product has a reputation for making connections with more mail systems than any other. There are no new gateways in Version 2.5, but the old ones still work, though with slightly different interfaces and some new capabilities.

The IBM PC QuickMail interface looks similar to the Macintosh version, although forms are not as elegant and maneuvering is not Mac-like because of a reliance on function keys.

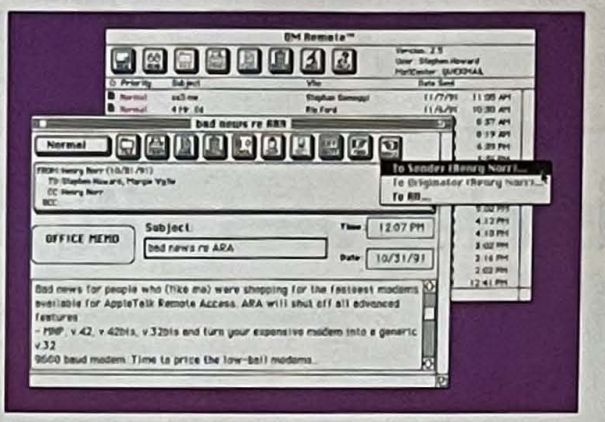
The new QM Configuration Manager utility lets mail administrators install address books, groups and message forms in predefined sets.



QuickMail 2.5 takes advantage of the Macintosh Communications Toolbox, an open-ended structure allowing access to a variety of communications protocols and connections. Through the Toolbox, QuickMail should be able to communicate with more systems in more ways. QuickMail still supports only one modem connection per server, however.

QM Remote, the stand-alone application that allows Mac users to dial into mail servers and read or download new messages, is vastly improved. Version 2.5 sports a new interface that is almost identical to the LAN software version. Messages can be created using a QuickMail form, addressed using a QuickMail address book and filed in the QM Remote OutBox for bulk mailing later.

Users have several incoming and outgoing message-handling options, which save time while connected to the mail center. Once connected, a user may move among waiting messages, file them in local folders or simply watch as QuickMail Remote downloads them automatically.


QM Remote™
Normal
OFFICE MEMO
Subject:
bad news re ARA
Time
12:07 PM
Date
10/31/91
Bad news for people who (like me) were shopping for the fastest modems available for AppleTalk Remote Access. ARA will shut off all advanced features
- PEP, v.42, v.42bis, v.32bis and turn your expensive modem into a generic v.32
9600 baud modem. Time to price the low-ball modems.

QuickMail was already ahead of the game in supporting remote connections, and Version 2.5 pushes even further with a new QM Remote that looks and acts just like the Mac LAN client software.

Top-heavy. QuickMail retains some of the idiosyncrasies that have plagued network managers since Version 2.0; put simply, the program has become top-heavy. The QM Administrator application is packed with capabilities, so many important functions are not always easy to find or use. Experienced QuickMail users will find that the Administrator's layout has changed little.

Longtime QuickMail users will notice some slight interface changes. The Mail menu, which appeared on the menu bar in Version 2.2 and higher, is now a submenu off the CEToolbox entry in the Apple menu. Having both the standard QuickMail desk accessory and a mail submenu under the Apple is confusing. The QuickConference option also has been moved to a CEToolbox submenu.

An undeniable improvement in the new QuickMail client software is an enhanced reply function. A user responding to a message that was addressed to a number of people is given a choice of replying to the author of the latest message, all recipients of the original message or the originator of the whole series. This is a nice improvement that speeds message handling and should prevent the embarrassing reply errors that befell users of earlier versions. Similar controls improve mail forwarding, and in general more options are available directly from pop-up menus.

Another little bonus is the capability to retrieve and launch enclosed documents with one click.

Docs lite. The heft added to QuickMail's packaging by the addition of DOS material is compensated for by an overall reduction in documentation. A 10-user package comes with only one user manual, instead of the 10 previously shipped. Each user is provided a reference sheet, and additional user manuals are available for $3 each. A 100-user license comes with 10 manuals.

CE Software has used multiple manuals to address discreet topics and applications within QuickMail, which is a good idea. It may be time for the company to add a separate manual dealing exclusively with connectivity issues. Better discussions of creating and maintaining gateway systems, constructing scripts that access on-line services, and using QuickMail in a mixed environment are needed. The manuals provide plenty of step-by-step instructions but not enough guidance for managing complex setups.

Instant install. CE Software now employs Apple's Installer with scripts for loading server, workstation and QM Remote software. The Installer makes it possible to install QuickMail from a file server. QuickMail address books, groups and message forms can be set up with the new QM Configuration Manager. Previously, users had to import address books and install new message forms individually (these capabilities are still available). With QM Configuration Manager, which also works from a server, you can prepare a set of standardized forms, groups and address books and install all at once.

Conclusions. Version 2.5 is a worthy successor to QuickMail's pre-eminence in Macintosh electronic mail. The product is easier to use than before and still provides an unmatched wealth of features. The cross-platform structure is a sound one and places QuickMail in the top tier of products available for unified Mac and PC E-mail. The PC client simply is not as good as the Mac one but is good enough for many situations.

QuickMail's shortcomings generally affect those who manage and configure the system. As CE offers new features, it has woven them into a fabric whose threads are already too dense. A good redesign is in order for Version 3. CE Software lives up to its very good reputation for support, both on the telephone and via on-line services.

CE Software Inc. is at 1801 Industrial Circle, West Des Moines, Iowa 50265. Phone (515) 224-1995; fax (515) 224-4534. □

SYSTEM 7 COMPATIBILITY

QuickMail 2.5	
Balloon help	No
TrueType	Yes
Publish and subscribe	n/a
Apple events	No
32-bit addressing*	Yes

**According to vendor; client only*

QuickMail 2.5 handles upgrades with more flexibility

QuickMail administrators upgrading to Version 2.5 — and there are a lot of them — will have an easier time of it than they have in the past. Although the number of disks in the distribution pack is up, the number of Mac disks is down. Workstation, remote user and server installations all begin with the first disk and Apple's Installer application.

On the user's Mac. Workstation installations now can be accomplished on a "live" Mac (you need not start up from the Installer disk) and also can be accomplished over the network. The new client works properly with System 7's System folder subfolders and is compatible with 32-bit-addressing mode. The standard installation includes support for sound input on Macs with microphones and sound compression.

In addition to the Installer utility, Version 2.5 comes with the QM Configuration Manager program, which lets the mail administrator specify forms, groups and address books that the user can install by running the program. This utility is handy, and it too works over the network when launched from a file server.

There are some warts on QuickMail 2.5 user installations, however. For some reason, CE recommends you confirm your earlier preference settings after installation, which shouldn't be necessary. Also, if users have been using QuickMail 2.2 or later on a System 7.0 Mac, then you have to delete the old desk accessory and extension before installing the new version. We understand the reason for this, but the Installer should do it for you. Also, none of the installation software gives you any way of setting standard user preferences, such as Mail Log enabling or disabling and mail handling.

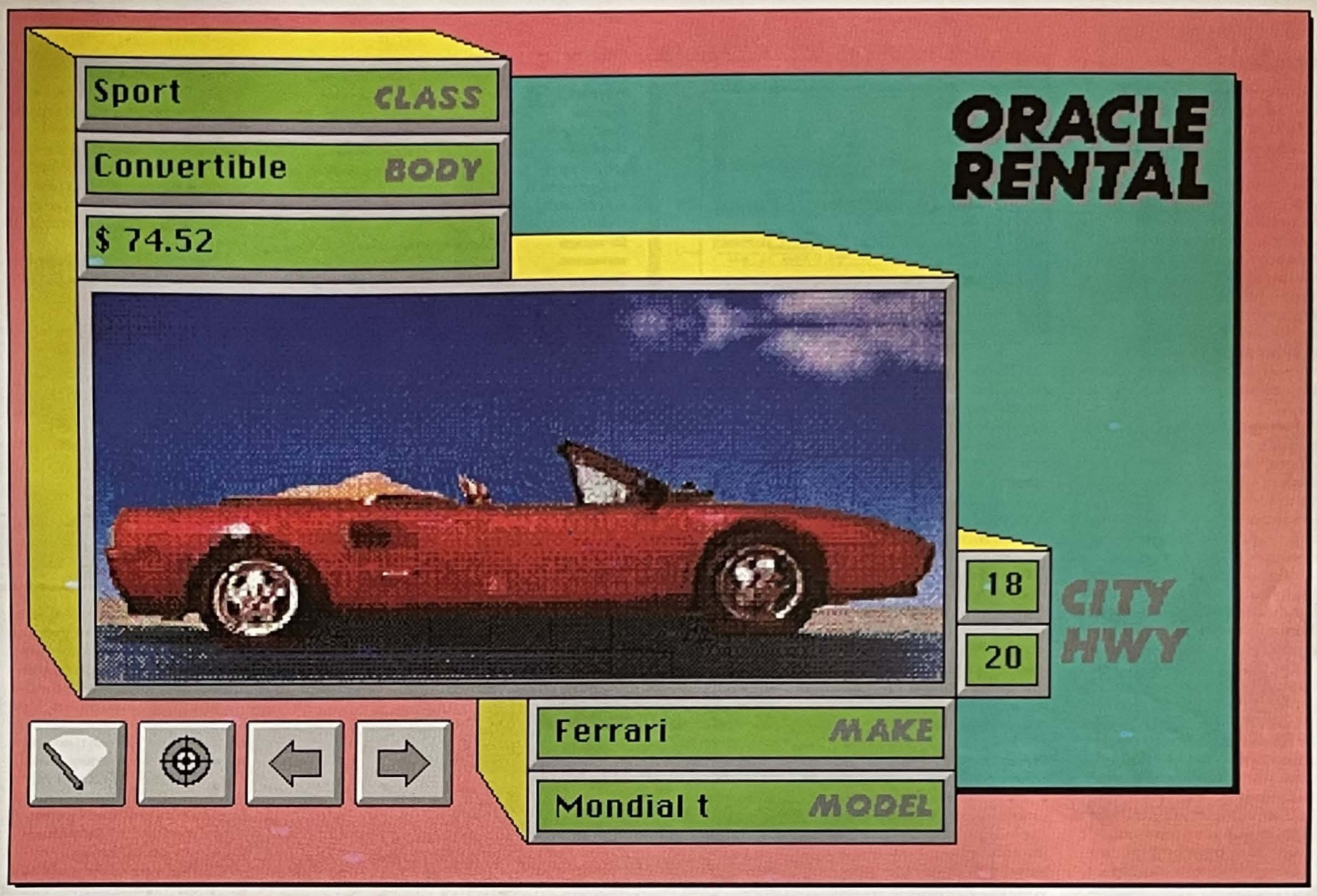
On the servers. The best characteristic of QuickMail installation is flexibility. You can upgrade some but not all of the servers on your network, and they will talk to each other. And Version 2.2 or later of the user software will work with your upgraded servers. (Version 2.5 of the user software works only with QuickMail 2.5 servers, however.) Also, once you think you've upgraded your site, you can tell the server to disallow log-in with any older user software.

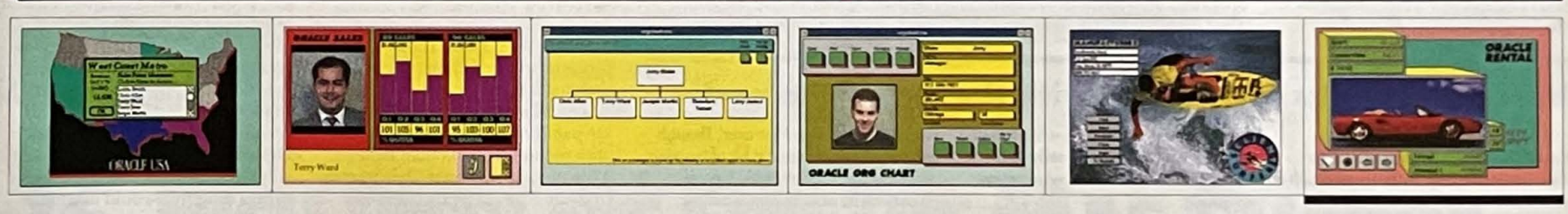
We had some problems running a network of mixed servers. For instance, the administrator cannot forward dead mail from a Version 2.5 server to an older one. To avoid such hassles, we don't recommend running a mixed network for long, but being able to do so at all is a boon.

QuickMail servers now can run System 7, but CE Software said they should be kept in 24-bit-addressing mode and have file sharing turned off. This latter limitation is too bad; file sharing makes administration of E-mail servers easier by letting you copy files, such as updated address lists, between Macs directly. The customizable Apple menu proved to be a nice advantage of upgrading the server to System 7.

We do not know, however, what cost in performance System 7 imposes on a QuickMail 2.5 server.

Unfortunately, the documentation, as in previous versions, doesn't address the permutations of the upgrade process beyond the basics. In all, though, the server upgrade process is smooth, and the user upgrade process is better than before. — *By Stephen Howard*





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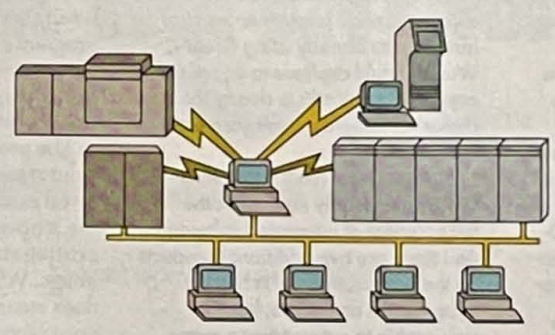

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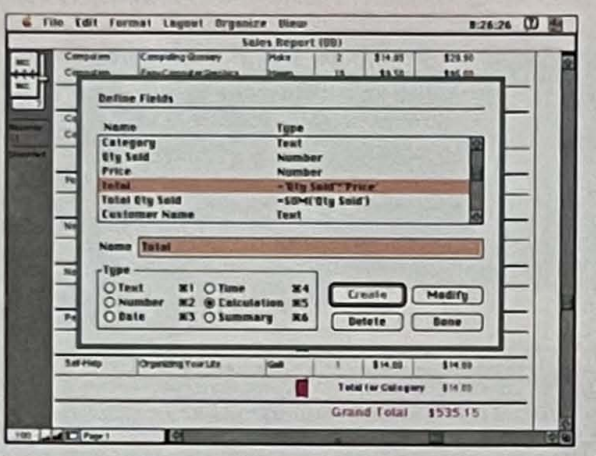
ClarisWorks

From Page 57

ule mirrors that of the parallel Claris dedicated application (MacWrite II, MacDraw Pro, Claris Resolve and FileMaker Pro). The advantage of this approach is a painless upgrade to any of these products if the user outgrows the capabilities of a specific module, and an easy transition back and forth between ClarisWorks and one of the dedicated Claris products. Because of its small file size (564 Kbytes without dictionaries, help system and file translators) and low $299 price, many users will find themselves using ClarisWorks on their home and portable machines.

Foreign file follies. The ability to read and write files created by other applications is critical in the modern workplace, and doubly so for a product that will often be used as a secondary application. To this end, ClarisWorks includes Claris-developed XTND-compatible translators for most of the popular file formats. The seemingly problematical task of reading Fast-Saved Microsoft Word 3 and Word 4 files is accomplished with ease.

The ClarisWorks implementation of XTND, however, is far from perfect. In most applications that use the XTND technology, all files for which a translator is installed appear in the File Open dialog. In ClarisWorks, you have to manually set the Import Options indicator. Further, you must select the type of file to import: word processor, spreadsheet, graphics or database. This two-click step is inconsistent with the seamless integration that is the theme of this product.



Perhaps the strongest case to be made in support of Claris' claim that ClarisWorks provides a natural upgrade path to its dedicated products is the file-manager environment. The strong resemblance to FileMaker Pro is unmistakable.

While most popular file formats are supported, there are a few notable omissions: MacDraw Pro, FileMaker Pro and Claris Resolve. Each of these three Claris applications can export data into one of the common formats ClarisWorks can read, but their absence from the list of supplied file translators is an embarrassment to Claris.

Bare-bones. Each ClarisWorks module is competent but not particularly outstanding: The word processor is adequate for most tasks. The graphics and spreadsheet modules are thoroughly unremarkable but also adequate for their intended tasks. The file manager resembles a subset of the popular FileMaker Pro — it lacks FileMaker's graphics field type, incorporating its powerful automatic text indexing features. The Communications module is based on the Apple Telecommunications Toolbox and, in the tradition of this genre, feels like the less-favored offspring, if not an afterthought. The ClarisWorks macro feature increases the utility of the communications module in a meaningful way, however, since log-on sequences can be recorded.

Claris has done a good job of copying the interfaces of the corresponding Claris dedicated applications. Although this is generally an admirable standard, we wish some "features" were subject to fresh thinking. For example, when will Claris realize users want to select a sentence more often than a line of text?

ClarisWorks is compatible with System 7 but is not System 7-savvy. Publish and subscribe and Apple events aren't supported, although in fairness, the HyperCard-based Claris Help System for ClarisWorks is one of the best context-sensitive systems on any Macintosh product we've seen, and balloon help is also available.

Documentation and support. The ClarisWorks documentation consists of Handbook, Getting Started, Quick Reference Guide and Communications Handbook. Overall, the manuals are excellent, with very high production values. The Handbook is particularly well-organized and clearly written with one or two notable lapses. Technical support, while generally quite competent, is unfortunately much-too-often unavailable because of busy telephone lines.

Conclusions. Although not a truly integrated product, ClarisWorks does represent the highest level of integration available to Mac users. The implementation of the frames metaphor adds a notable element of synergy to a suite of otherwise unremarkable application modules, and is easily accessible to the average user.

The small application size and memory requirements of ClarisWorks, together with its file import and export capabilities, make it an excellent candidate for use with Mac PowerBooks. Its relatively low street price makes it an excellent choice for those whose resources are limited.

Our complaints about ClarisWorks, especially the implementation of the file import and export features, are easily corrected, and we hope Claris will address them in a timely manner. Shortcomings and rough edges notwithstanding, ClarisWorks is a compelling product we can confidently recommend.

Claris Corp. is at 5201 Patrick Henry Drive, Santa Clara, Calif. 95052. Phone (408) 727-8227. □

SYSTEM 7 COMPATIBILITY

ClarisWorks	
Balloon help	Yes
TrueType	Yes
Publish and subscribe	No
Apple events	No
32-bit addressing*	Yes

**According to vendor.*

How ClarisWorks matches up with the rest of the pack

Microsoft Works 2.0 was introduced in 1988, and since that time Mac users needing an integrated software solution have been limited to basically that one choice. In just a few months, the number of major offerings has gone from one to three, with the introduction of ClarisWorks and Symantec Corp.'s GreatWorks.

Managers without a heavy investment in Microsoft Works will probably narrow the field immediately to a choice between the two more recent products.

While conceptually similar, there are differences between the two. The application modules they share in common offer comparable functionality. GreatWorks includes a very good outliner module and a one-bit paint module, the equivalent of which are not available in ClarisWorks.

ClarisWorks, on the other hand, is a better choice for use on computers with limited RAM, such as those 2-Mbyte configurations with the Classic II and PowerBooks, of which Apple is apparently quite fond. ClarisWorks performs well in the recommended 900-Kbyte memory partition, while GreatWorks requires at least 1.5 Mbytes or more for most common tasks.

Both applications use Microlytics Inc.'s SpellFinder spelling checker and WordFinder thesaurus. Claris markets four foreign-language dictionaries: U.K. English, Spanish, French and German. All are compatible with Claris applications that use spelling checkers. User dictionaries from other Claris applications are also compatible.

GreatWorks should present no special training requirements, except perhaps to the novice Mac user. Though some users may need a bit of training in the use of ClarisWorks' frames, most will be able to figure out the many uses of this tool by themselves. In any event, creating the kind of compound documents that both products are designed for is quicker and easier with ClarisWorks.

Both products have the same $299 suggested retail price. Managers of installations already using GreatWorks should continue to do so. Otherwise, ClarisWorks is clearly the choice for integrated software on the Macintosh.

Neither GreatWorks nor ClarisWorks necessarily represents the full potential of integrated software, and there are two additional products on the horizon. Microsoft has yet to announce an update, but it is reasonable to suspect that a more modern and competitive version of Works will be available one day soon. Beagle Bros. Software has publicly shown a development version of BeagleWorks, an integrated product that dispenses entirely with task-specific document types in favor of dedicated tools that are always available for each type of task.

— By Dale Coleman

SCORE CARD

GreatWorks*

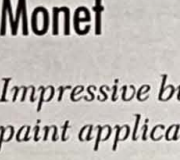
MacWEEK

Overall value	●
Performance	◉
Features	●
Ease of use	●
Documentation/support	●
List price	$299

● Excellent ● Very good ● Good
◉ Average ○ Below average

**Reviewed July 30*

IN BRIEF



Monet

Impressive but narrow paint application

Monet from Delta Tao Software Inc. is an unusual paint program — that much is apparent from the audio CD jewel case. Its only tools are paintbrushes, and it cannot create a picture from scratch. Instead, it creates impressionist-style images from a reference picture, which must be an image.

Choosing one of the brushes, adjusting its parameters and drawing over the reference image causes a new image to appear. As you increase the size of the brush, the results become more abstract. The program always uses the reference picture as its base image, so you can paint over existing strokes with a smaller brush to reveal more detail.

The program records all the paint strokes, and these can be saved as a Brush file. When a Brush file is opened, Monet redraws the existing strokes to re-create the image. While this can be tedious, it does mean that the original reference picture could be altered and then redrawn automatically. Also, when a PICT file is first opened, the resolution of the output can be defined. By working at low screen resolution, and with the anti-alias feature off, the work will go much faster. Once the work is finished, the Brush file can be rendered again to create an image at the final desired resolution.

Watching the paint strokes "create" an image before your eyes can be entertaining. Monet can create a stand-alone file that replays these brush strokes on screen for someone who doesn't have Monet. This is entertaining for friends, but as a stand-alone application it doesn't seem to have many serious uses. If there was an external command that played Brush files, they might be useful in a presentation created with HyperCard or MacroMind-Paracomp Inc.'s Director.

The final work can be saved as a PICT file. Monet is unique in that it requires System 7 and at least 2 Mbytes of RAM to operate. It supports publish but not subscribe.

When using the program, we couldn't help but wish that it was even more automatic than it was. Dragging the brush around repeatedly when at small brush sizes gets to be a drag. We would like to be able to select an area and have the brush draw randomly in that area, or draw a path that the brush would follow and use it over and over again. The manual includes information about the structure of the Brush file and alludes to the fact that a third party might be able to create such a program.

While Monet is fun to use, if you don't need to create impressionist-style images it will be of no use to you. It is more of a paint utility than a program, and as such we think we would use it more if it was a plug-in module for use with other paint programs. In that light, its $399 price is expensive. Still, if you have a scanner and would like to create impressionist images but don't have the need or skills to use other paint programs, then Monet might be the program for you. But, in general, it is too limited for our tastes.

Delta Tao Software Inc. is at 760 Harvard Ave., Sunnyvale, Calif. 94087. Phone (408) 730-9336 or (800) 827-9316; fax (408) 730-9337.

— By Michael Murie

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COMPARISON

Companies touch up contact management

By Steve Michel

When MacWEEK last reviewed After Hours Software Inc.'s TouchBASE and Advanced Software Inc.'s INtouch (see MacWEEK, May 21), we found the two desk accessories to be fairly evenly matched, even though they took different approaches to solving the problem of contact management. New versions of both products address some of the issues we discussed in that review and match the products more closely.

Adds and fixes. INtouch 1.1.5 fixes the single data file limitation of its predecessor (although only one file can be open at a time) and adds network support, allowing you to set up a database for use over a network. An innovative new feature, the Snap* control panel, lets users print envelopes from virtually any application.

The biggest changes to TouchBASE 2.0 include more-flexible printing, sorting and searching options. We especially appreciate the improved printing, which should let you print contact lists in nearly any address book, listing or envelope format you desire. This printing flexibility was once the sole province of Portfolio Systems Inc.'s Dynodex and Power Up Software Corp.'s Address Book Plus (see MacWEEK, June 25).

TouchBASE also has a new Copy Label command (similar to INtouch's Snapshot tool and identical to the Copy Label command in Dynodex) that lets you copy all the fields that are part of an address to the Clipboard for pasting into a word processor or other application.

Different approaches for the same data. These two products take very different approaches to managing addresses. An INtouch database includes only two fields: one for name and address, and one for notes. This free-form style makes for uncomplicated data entry and look-up, but makes tasks such as mail merge and importing and exporting of data more difficult. If you want to exchange INtouch data with other programs, you need to enforce consistency on yourself in how data is entered and arranged in the database.

TouchBASE takes a more traditional database approach, with separate fields for each item in the database. Generally, we prefer TouchBASE's approach, but we also can appreciate the need for free-form data, and know a number of users who like this approach.

Sharing is everything. Both products allow multiple users to share a data file on a network, meaning that standard corporate or department address books can be used to help lessen duplicate information. Predictably, given the difference in philosophy between the two products, they do this in different ways.

INtouch uses a client-server model for its multi-user access. A program called INtouch Server runs on a host Macintosh (which can be an AppleShare file server or other Mac) and opens the group file. Others can log onto this group file, using a Network button that appears on the Open dialog, similar to the way Claris Corp.'s FileMaker Pro lets you share files. From this network dialog, you can locate separate INtouch servers and use their databases.

This approach is useful at least in theory. The local copy of INtouch doesn't load the full file into memory. Instead, only the current record is sent from the server to the local desk accessory, and all processing is done on the server. If you search for a name, only that name is sent to the server, which sends only the record containing the found item back to the client. This should mean that the program works a lot faster and cuts down on network traffic.

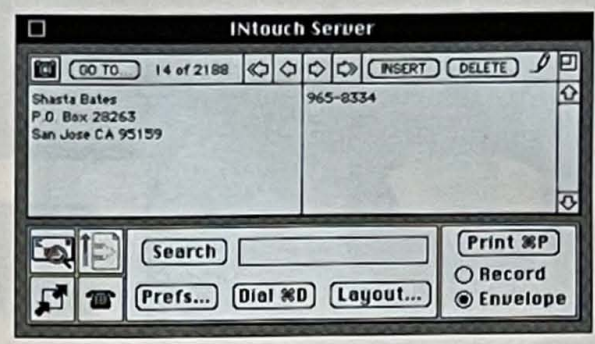
TouchBASE, on the other hand, has multi-user capabilities built in. You share a TouchBASE file by simply placing it in a folder that others can access, on an AppleShare volume, or in a shared folder under System 7. This is a slightly more traditional approach to shared data, and we found that shared use of the data file was more seamless using TouchBASE than INtouch.

Record locking. Both products allow the first person who opens a record to edit that record, locking out others from modifying the record while the first user has it open. TouchBASE places a small warning in its Record Summary area of the record; INtouch signals that you cannot edit a record by using a pencil icon with a line through it, similar to the one the Finder uses to show locked folders on a server.

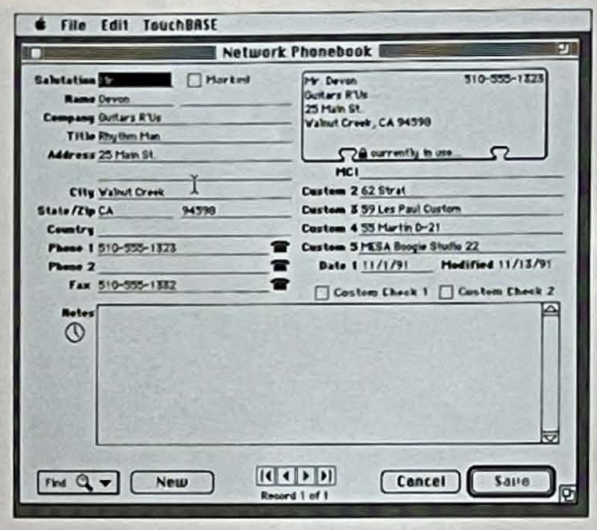
When a user finishes editing a record in TouchBASE and moves to another, the write protection for that record is immediately removed, and the changes are updated automatically in the file. This method is clear and seamless.

With INtouch, the status of the record you are viewing does not change until you move to another record and back to the first one. We found this to be cumbersome and wish that new changes were reflected as soon as the first user saved the record.

Performance. We found TouchBASE to be much quicker at finding records than INtouch. In our tests of a file of more than 2,100 records, TouchBASE found most records nearly instantaneously when searching on a single field. Although INtouch has only two fields, the program has much more text to search through, and finding records took a little longer. The price for TouchBASE's speed, however, is file size:



When you are connected to the INtouch server, a pencil icon appears in the upper right corner of the window — an indication that you can modify the record.



TouchBASE uses a structured-field approach to data storage, which makes import and export tasks much easier than with INtouch. The lock icon inside the card indicates that the record being viewed is locked and cannot be modified.

The 2,100-record file took up 117 Kbytes as an INtouch file and 1.1 Mbytes with TouchBASE.

TouchBASE also has a couple of other features we miss in INtouch: INtouch provides no way to work on a subset of a database file. You can't mark or select a group of records, and then do such things as print them or export them to another file. TouchBASE has several ways of allowing you to do this — you can manually mark records and view only marked records, or you can work with a set of records based on search criteria.

On the other side, INtouch has an innovative feature we would like to see in more programs: A separate control panel, Snap*, lets you select an address in any document, use a Command-key combination, and either add that address to your INtouch file or print an envelope using that address. This feature is very functional and extends INtouch's usefulness. To complete it, we'd like a look-up mechanism where a name could be typed into a word processor, selected, and INtouch could find the address in the INtouch file and paste it into the word processor. Nevertheless, we find this a nice mechanism to help you print envelopes from any application.

Conclusions. All in all, INtouch 1.1.5 and TouchBASE 2.0 are well-matched, even if they take very different approaches to data storage and network access. INtouch's free-form style might appeal to those who have used Casady & Greene Inc.'s QuickDEX or Claris' HyperCard, while TouchBASE is a more traditional field-oriented approach, which we prefer.

INtouch, at $69.95 for one user, beats TouchBASE's $125 single-user price.

While we can see the rationale for INtouch's server-based approach for network access to a single database, we think TouchBASE's multi-user capabilities are better-implemented and make more sense for most users, although its cost per user is higher.

TouchBASE is the far superior product if you need to work with subsets of a larger database, however, and it offers much more flexible printing options and importing and exporting features than INtouch. □

SYSTEM 7 COMPATIBILITY

Features	INtouch 1.1.5	TouchBASE 2.0
Balloon help	No	Yes
TrueType	Yes	Yes
Publish and subscribe	No	No
Apple events	No	No
32-bit addressing*	Yes	Yes

*According to vendor.

Product Info

ADVANCED SOFTWARE INC.
INtouch 1.1.5: $69.95
1095 E. Duane Ave., Suite 100, Sunnyvale, Calif. 94086
Phone (408) 733-0745 or (800) 346-5392; fax (408) 733-2335

AFTER HOURS SOFTWARE INC.
TouchBASE 2.0: $125
5636 Van Nuys Blvd., Suite B, Van Nuys, Calif. 91401
Phone (818) 780-2220; fax (818) 780-2666

SCORE CARD

Multi-user contact managers

MacWEEK

Categories	INtouch	TouchBASE
Overall value	●	●
Performance	◉	●
Features	◉	●
Ease of use	●	●
Documentation/support	●	●
List price	$195*	$125**

● Excellent ● Very good ● Good
◉ Average ○ Below average

*Network three-user pack. **Single user.

ON BALANCE

Multi-user contact managers

MacWEEK

These products take different approaches to managing names, addresses and contacts, as well as sharing data files over a network.

▸ **INtouch 1.1.5** from Advanced Software Inc. uses a free-form approach to data entry. Its client-server model for multi-user access may have some advantages on networks with a lot of traffic, but we found record updating to be slow and cumbersome. The innovative Snap* control panel does increase the usefulness of printing from INtouch when working with other applications.

▸ **TouchBASE 2.0** from After Hours Software Inc. adds a lot of printing features, making it resemble Portfolio Systems Inc.'s Dynodex 2.0. Its multi-user access is straightforward, and performance is very good. Data files created in Version 2.0 are much smaller than in the 1.0 release, but they can still be prohibitively large.

Schedule Publisher: Inelegant power

By Mel Male

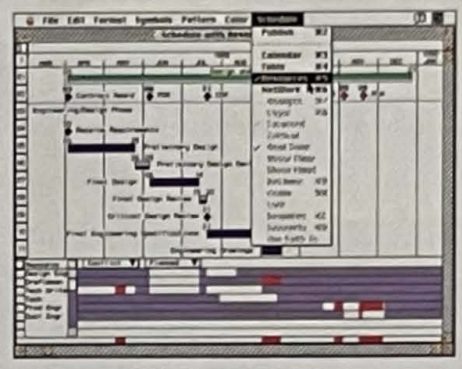
Advanced Management Solutions Inc. employs a multilevel approach in Schedule Publisher 3.0, supplementing basic project-management tools with an abundance of high-end features that can be ignored until the user needs them. Lacking multi-user capability, Schedule Publisher is endowed with multiplatform versatility: It runs on the Macintosh, IBM PCs and compatibles, and Unix-based workstations.

The graphical user interface is designed to have a similar look and feel in all environments. However, as with many applications designed to look and feel the same over multiple platforms, this interface has some problems.

The application's price is $2,000, and owners of previous versions can upgrade for $495. A 12-month maintenance option includes telephone support and upgrades and is available for $300. Site licenses also are available.

Schedule improvements. Activity hot spots now can be highlighted in the Gantt-style Schedule window — coupled with notation of the hot spot's function in the information line. This will help new users with the far-from-intuitive interface. More valuable to experienced users will be the addition of a split-calendar capability previously available only in printed reports. This enables independent time-line scaling on both sides of a user-defined division: For example, hours and shifts can be displayed on the left, with days and months on the right. Another convenient feature rescued from the older version's Publish mode is the breaking of Activity Bars across weekends and shifts. If you move an activity after the schedule has been Baselined (also new) a ghost bar shows the Baselined position.

Schedule Publisher provides two alternatives to its Gantt-style Schedule window: a Logic (Network/PERT Chart) mode, and a Tables mode, in which you can display and enter data in a spreadsheetlike format. These have both received considerable attention in this upgrade.



In Schedule Publisher, resource conflicts are visible when using the optional display area at the bottom of a window.

Database enhancements. Activities can be categorized, selected and sorted by organization, function, location, cost account or other information, using up to 100 separate user-definable extension fields. Schedule and budget roll-ups are now available, in addition to the original Standard and Templates file roll-ups.

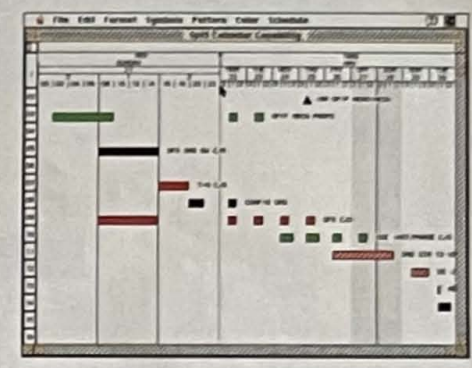
Activities now can be scheduled independently against up to 64 user-defined calendars. You can, for example, use a five-day, one-shift calendar for engineering tasks and a six-day, two-shift calendar for manufacturing.

Resources deserve attention. Resources are those things needed to accomplish work: people, equipment, materials, facilities or money. In Schedule Publisher you define the cost of each activity either indirectly by specifying the resources it requires, or directly through a cost dialog. Using this information, Schedule Publisher tracks budgeted cost of work scheduled and performed, and actual cost of work performed, and it can generate cost-variance charts.

A display of resource information as a function of the project's time line can be opened in the bottom of the Schedule window. Three options for viewing this information are available: The first, Conflict Analysis, uses colors to depict the time-phased availability of each resource. A mouse click in an overcommitted area pops up a list of competing activities. The histogram option shows greater detail of any single resource's availability and requirements. The third viewing option is a spreadsheetlike table with a pull-down menu that controls the type of information displayed.

Among the useful improvements to the resource displays are scroll bars, data-input capability in the spreadsheet view, shortcut keys in the histogram view, simplification of partial resource allocation and multiple cost-center capability. Despite Version 3.0's improvements, the displays suffer from screen redraw problems, and manipulation of the graphics controls is tricky.

Sophisticated reports. Corporate-quality reports can be created in the Publish mode. Using cumbersome but effective graphics tools, the user creates templates with text locators — somewhat like place holders in form letters. During printing these place holders are filled with the specified project information, including schedules, cost data and variance-analysis charts.



Split-calendar capability is valuable when detailed hour-by-hour control is needed while maintaining surveillance.

Documentation and support. Schedule Publisher's user interface is far from intuitive, and the new on-line help system does little to assist the user with this problem. The user manual also falls short, addressing all features in depth but not clearly identifying important differences between the Macintosh and PC interfaces. Fortunately, telephone support is available Monday through Friday from 8 a.m. to 5 p.m. PST and from 8 a.m. to 10 p.m. on Fridays.

Conclusions. If you really need the detailed level of sophisticated planning and control it offers, consider trying Schedule Publisher. Be aware, however, that the value of its powerful high-end features might be more than offset by frustration with the clumsy interface. There are plenty of easier-to-use, somewhat less-capable applications at a fraction of Schedule Publisher's price.

Advanced Management Solutions Inc. is at 3893 Piedmont Drive, Highland, Calif. 92346. Phone (714) 862-7088 or (800) 397-6829; fax (714) 862-8639. □

SCORE CARD
Schedule Publisher 3.0

Overall value	⊙
Performance	●
Features	●
Ease of use	○
Documentation/support	⊙
List price	$2,000

● Excellent ● Very good ● Good ⊙ Average ○ Below average

ON BALANCE
Schedule Publisher 3.0
Advanced Management Solutions Inc.

Schedule Publisher presents a dilemma common among applications ported to the Macintosh. On one hand, it has an abundance of technically sophisticated capabilities and a similar interface across platforms. On the other, the typical user will become annoyed with its difficult, inelegant interface. It is possible to achieve results that are difficult, if not impossible with competing systems, but not without considerable patience and time.

SYSTEM 7 COMPATIBILITY

Schedule Publisher 3.0	
Balloon help	No
TrueType	Yes
Publish and subscribe	No
Apple events	No
32-bit addressing*	Yes

*According to vendor.

Installing NetDistributor lightens the workload

By Alexis Rosen

Few things can waste a network manager's time as effectively as software upgrades. After spending days or weeks testing new software, it must still be installed on users' Macs — not all users' though, just the appropriate ones. The rituals of printer-driver or mail-address-book installation are a familiar burden to most support personnel by now.

Trik Product Group's NetDistributor is designed to distribute and automatically install software over a network. It's the third such product we've reviewed (see MacWEEK, May 21 and Nov. 12) and the best so far. It will find a place in many managers' computers, if not their hearts.

Setting up. NetDistributor has two parts: the administrator's NetDistributor application, which creates and schedules the distribution of files, and the Transporter extension, which enables networked Macs to send, receive and install files automatically. This extension operates as a faceless background process and does not require configuration.

Installation is easy and virtually foolproof. NetDistributor can be installed on administrator or client Macs with one double-click per Mac. It's so easy that most administrators will simply leave the client installation software on a network server and instruct users to run it, and then follow up with the few slackers.

Features. The administrator uses the NetDistributor application to create packages, which are groups of files to install or update. Each file in a package can have a different rule, which describes how that file should be installed. The rules, which are limited to the few provided by NetDistributor, can place files in the System folder, in a folder inside the System folder (such as the Extensions folder), or wherever an earlier version of the same file can be found.

This last rule is particularly useful for updating applications. NetDistributor will search for an older version anywhere on the recipient's disk and put the new one in its place. There are a few other rules, such as one that installs a file wherever a previous file was placed. For example, a dictionary file can follow the word processor it belongs to.

Packages are Mac applications themselves. This means that if a user double-clicks a package, it will self-install, without relying on the network. This is convenient for managers who create packages for

See NetDistributor, next page

SCORE CARD
NetDistributor

Overall value	⊙
Performance	⊙
Features	⊙
Ease of use	○
Documentation/support	○
List price	$395*

● Excellent ● Very good ● Good ⊙ Average ○ Below average

*For 100 users.

ON BALANCE
NetDistributor
Trik Product Group

NetDistributor, the first robust Mac program dedicated to software distribution over the network, does what it's supposed to — create packages of multiple files and install them based on simple rules — making NetDistributor more powerful than its nearest competitor, MacVONK•USA's netOctopus. However, the program doesn't offer other kinds of network management. It's a viable product but suffers from software conflicts and can't duplicate Apple's Installer functions.

NetDistributor

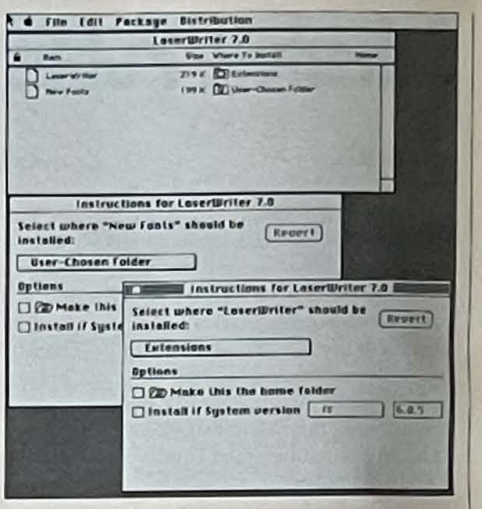
From previous page

their networks and who also want that same distribution to go to Macs that are not connected to the network.

Once a package is created, it must be distributed. The NetDistributor application provides an address book of all users on the network who run the Transporter extension, divided by zone. Administrators also can establish arbitrary groups of people either by hand or by importing a list of users from Technology Works Inc.'s GraceLAN Network Manager or Pharos Technologies Inc.'s STATUS*Mac. The network manager selects groups, zones and individuals to whom the package should go, and then sends it. From then on, the manager's Transporter takes care of sending the package to each recipient. Transporter will retry failed distributions many times, if necessary.

NetDistributor provides a Manifest window, which can display and control the progress of ongoing distributions. Individual recipients or entire distributions can be stopped, started and rescheduled as necessary. This is extremely important, because this is where problems are revealed and where they can sometimes be resolved.

Performance. NetDistributor is often an exercise in frustration; it cuts through installation problems like a dull knife. The program fails to address many of the more-difficult installation problems. It can distribute files quite well, but it makes no attempt to deal with individual resources within the System file or applications. Thus, items such as fonts, desk accessories (under System 6) and miscellaneous other system resources cannot be installed remotely. They can be distributed as files and then installed by hand, but this does not eliminate the need for a support staffer to follow up and make sure the items were installed.



Files to be installed together are grouped in a package. Each file can be installed in a separate place, based on rules. NetDistributor sends the files to selected Macs over the network.

Worst of all, NetDistributor cannot cope with the scripts used by Apple's Installer, so software shipped for use with the Installer must be repackaged by the manager for distribution to users. It is often impossible to duplicate the behavior of Apple's Installer with NetDistributor's rules, so in many cases you're back to square one.

NetDistributor's most basic problem, however, is coping with the bugs, misfeatures and anti-social behavior of other programs. Transporter has to install files while other software is running, such as screen savers, and sometimes these programs cause problems.

The first versions of NetDistributor failed to work with about 25 percent of the Macs on our 100-node test network. In a few instances, we found an attempted installation crashed the recipient.

We've received a number of updates and expect that future bug fixes will improve NetDistributor's behavior. In the meantime, dealing with the machines that refuse to accept installation packages continues to aggravate us.

Conclusions. NetDistributor is a solid attempt to improve on one of the most frustrating tasks in network administration. At $395 per 100 users, it is very inexpensive. While the interface is good and the features cover the basics, this product's capabilities and robustness leave something to be desired. Until a better tool comes along, however, NetDistributor is worth having.

Trik Product Group is at 400 W. Cummings Park, Suite 2350, Woburn, Mass. 01801. Phone (617) 933-8810 or (800) 766-0356; fax (617) 933-8648. □

SYSTEM 7 COMPATIBILITY

NetDistributor	
Balloon help	Yes
TrueType	n/a
Publish and subscribe	n/a
Apple events	No
32-bit addressing*	Yes

**According to vendor.*

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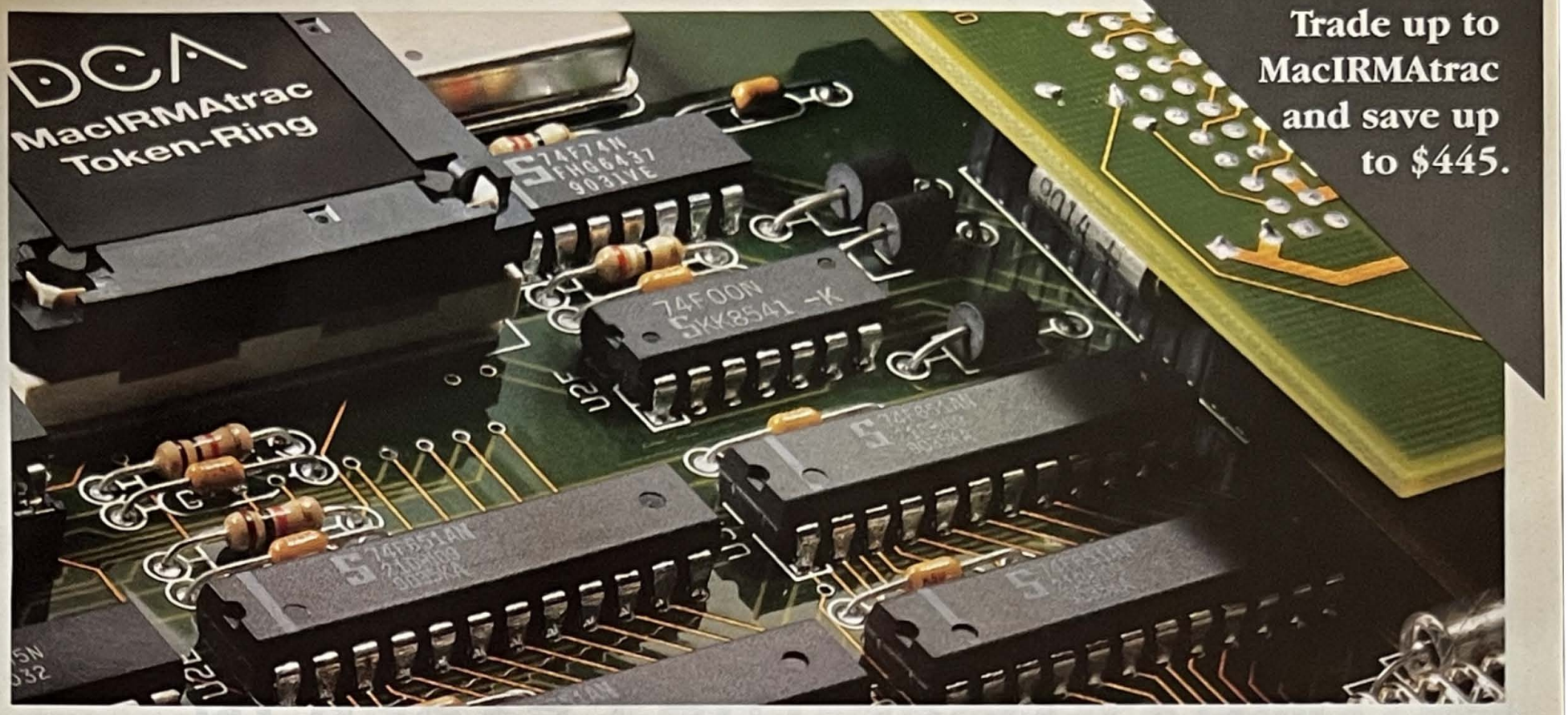

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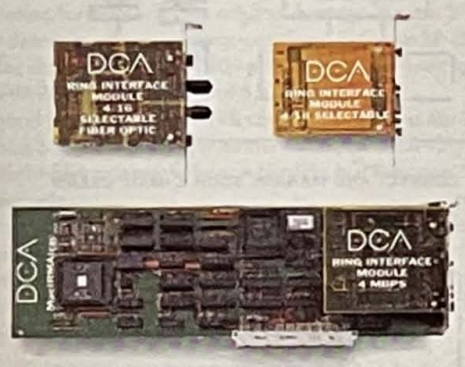

With our replaceable RIM technology, you'll never have to worry about buying another token-ring board.

With DCA®'s MacIRMAtrac, Macintosh® users can handle many different growth possibilities both now and in the future. This unmatched flexibility is the result of our replaceable ring interface module (RIM) technology that allows a single token-ring board to adapt in many ways.

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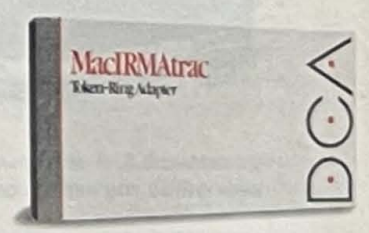

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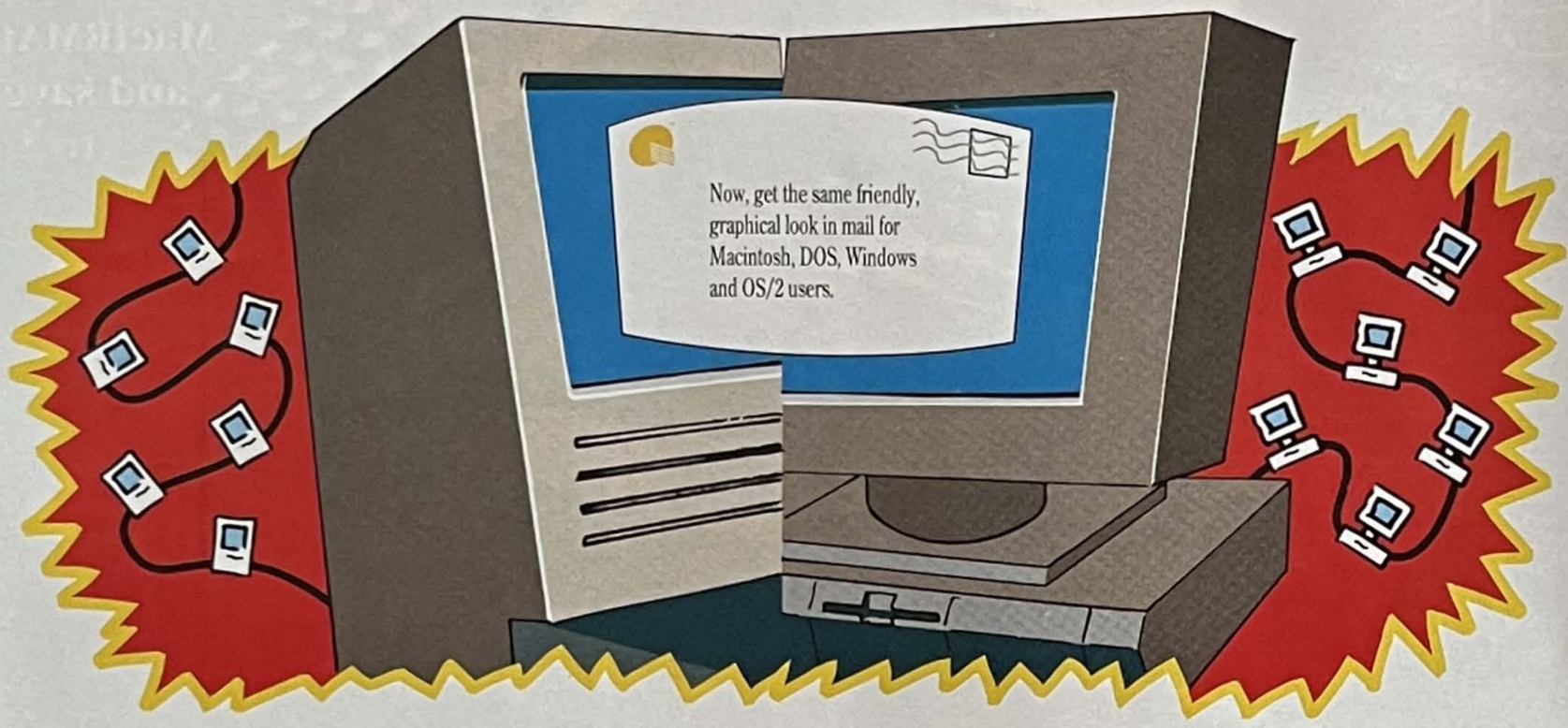

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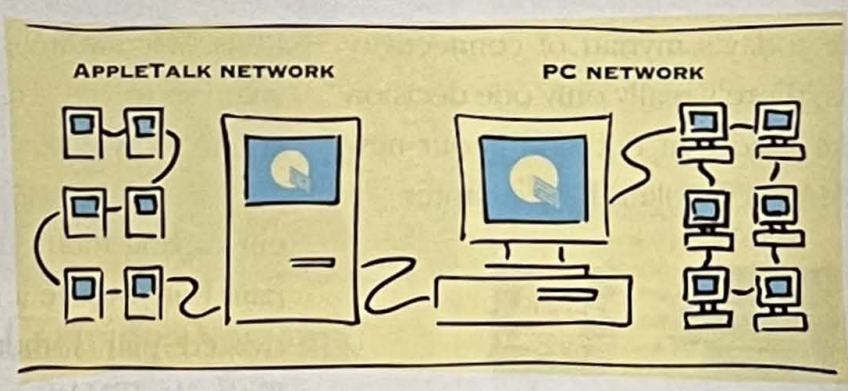

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Mac video: Fitting all the pieces

When it comes to in-house video production, integrating the Mac can be easy. Getting the other required equipment and finding the money to pay for it is the challenge.

For more on video production Go to Page 38

By Steve Rosenthal

Setting up a Mac-based in-house video-production facility can give a company's corporate communications greater flexibility, faster turnaround and often greatly reduced costs. But as anyone who puts together an in-house video-production studio quickly discovers, it takes a lot more equipment than a Mac, an editing program and a video deck.

"When I first saw a video-out card for the Macintosh, I thought we could start producing video for about $2,500," said Mark Allen, a vice president of the Vining-Sparks IBG securities company in Memphis, Tenn. But by the time he had done his research and evaluated his requirements, his actual order was for $30,000 worth of equipment.

However, video experts say not every system has to cost quite that much, although organizations with greater needs and greater budgets can spend quite a bit more. "Our typical complete system does run about $35,000," said Morgan Rees, sales and marketing manager for the Computer/Video Systems division of R.E. Snader & Associates Inc. in Sausalito, Calif. "But there's a wide variation in price and capability."

Video formats. Although acquiring the raw footage comes first in actual video production, deciding on what video format to use generally comes first when planning a production facility.

"Many other recommendations are going to revolve around that format," said Richard Haukom, president of Haukom Associates, a San Francisco producer of video and interactive communications. The higher the quality of the edit format, the more it's worth putting into cameras, lights and other parts of the system.

Regardless of the format, Haukom said, you ought to establish certain minimum requirements. Any system you buy should support timecode for accurate editing, and internal or external time base correctors (TBCs) for better synchronization. Although special network equipment can connect just about any industrial or professional deck to the Mac, models with serial interfaces offer the most flexibility.

According to Haukom and others, S-VHS is the least expensive format providing a quality level acceptable for corporate use. U-Matic-style 3/4" SP is next. And Betacam takes the top spot. Hi-8mm format wins plaudits as an acquisition format, but even makers of Hi-8mm cameras recommend editing onto another tape format.

"If you're only going to be editing down one generation, S-VHS is fine," said Dan Lindheim, president of General Electronic Systems Inc. in Berkeley, Calif. But for more complex projects with multiple layers and generations, Lindheim recommends 3/4" or Betacam edit systems.

For some corporate users, however, value must be balanced against compatibility with current equipment. "I was looking for a computerized upgrade that would be compatible with our [current] system," said Rob Dickehuth, media production supervisor for Baylor College of Medicine in Houston. Consequently, he said, rather than change to a newer format, he chose to retrofit his existing 3/4" U-Matic equipment with a Macintosh-based video control network from Advanced Remote Technologies of Campbell, Calif.

Lights, sound, accessories. While decks and cameras define the hardware side of most desktop systems, even a basic system normally includes some key accessories.

After good cameras, the single factor that contributes most to image quality is lighting, most videographers said.

"A good lighting package always helps," said Baylor's Dickehuth. Even a single light can make a difference, he said, but if you have the money "the sky is the limit."

For those with a more finite budget, Dickehuth said, a light kit with three or four lights, such as those made by Lowel-Light Manufacturing Inc. should be a good start — and cost about $1,000.

Sound quality is also important. Clip-on lavalier mikes such as Sony Corp.'s ECM-44s run about $200 each. If "lavs" are not flexible enough for production, Dickehuth said, wireless and shotgun mikes might also be worthwhile investments.

Don't forget you'll need a tripod for the camera, Snader's Rees said. While consumer-grade tripods can run less than $100, an industrial-grade model complete with the required fluid head for smooth camera movements runs closer to $1,000.

Even for a basic system you're not done yet. Add a video monitor or two ($500 to $1,500) for checking your edits, a carrying case for the camera (up to $500), and if

See Video, next page

Camcorders, edit recorders and players

For corporate producers who choose S-VHS format, both dealers and users agree that Panasonic Communications and Systems Co.'s AG-450 camcorder or the more expensive AG-460 are the most popular hardware choices.

For S-VHS editing, Panasonic's AG-7750 editing recorder and AG-7650 player are quite popular, with some reported corporate interest in the lower-cost but not-quite-frame-accurate AG-1960 series. JVC Professional Products Co.'s BR-S611U edit deck is also winning a following, along with the company's KY-17U CCD (charge-coupled device) camera.

In the 3/4" class, Sony's EVO-9850 and EVO-9800 garner the most mentions as an edit recorder/edit player pair. But increasingly, they're used as destination formats with the original footage shot on S-VHS or Hi-8mm.

For Betacam, the new lower-cost Sony Betacam SP 2000 Pro Series is the popular choice. The PVW-2800 editor/recorder goes for about $15,000, while the PVW-2600 player is about $10,000.

A good industrial-grade Hi8 camcorder such as Sony's EVO-9100 costs less than $3,000. Consumer cameras are considerably less expensive and might give adequate image quality, but they don't have any provision for timecode.

If you want to edit on Hi8, you'll have to accept a higher level of dropouts and a reduced number of edit generations compared to S-VHS, Betacam or 3/4".

Furthermore, even dealers said you're better off waiting until next year for the forthcoming frame-accurate EVO-9850 rather than buying the current EVO-9800. — By Steve Rosenthal

PriceWatch
S-VHS VIDEO-EDITING SYSTEM

Dealer	Street price	List price
B&H PHOTO-VIDEO New York	$8,150	$11,000
CEAVCO AUDIO-VISUAL CO. INC. Lakewood, Colo.	$8,857	$11,000
ELECTRONIC COMMUNICATION SYSTEMS Davenport, Iowa	$9,390	$11,000
RE SNADER Sausalito, Calif.	$8,580	$11,000

System used was the Panasonic AG-7650 and AC-7750.

Save dollars: Rent or lease

One way to avoid the relatively high cost of buying video equipment is to rent or lease it instead. In just about every major city in the country, corporate producers can pick up the phone and get anything from a single camcorder to a complete production truck by the day, week or month.

"If you're not going to use the equipment very often, it's better not to have that capital investment," said Ken Miller, who produces training films for Expert Advisor Video in West Hills, Calif. That's especially true, he said, if your equipment needs change for each project. But, he added, there's no absolute rule — you have to work out the calculations and figure your priorities for each individual case.

Rental charges vary with the market, said Dan Lindheim of General Electronic Systems Inc., but for a rough guide you can figure a daily charge of 1 percent to 2 percent of purchase price. At most rental companies, the charge for a week is three-and-a-half times the daily rate, and a month goes for as little as eight times the daily rate.

If a purchase makes sense economically but capital is in short supply, leasing offers a third alternative. Many dealers have their own lease plans, but Digital F/X Inc. of Mountain View, Calif., also will arrange a lease for any complete system that includes one of its Video F/X editing units along with the other hardware. Depending on how much hardware you include, the company said, prices range from less than $500 to more than $1,000 per month. — By Steve Rosenthal

Video

From previous page

you're concerned about image quality, a waveform monitor and vectorscope ($500 to $2,500 each).

If you need multiple sound inputs, a mixer adds from $100 to $1,500, and if the monitor speakers don't give you the fidelity you need, external speakers can solve the problem for another $100 to $500 each.

If you plan to create graphics on the Mac, a video output card for the Mac such as Truevision Inc.'s NuVista+ adds about $3,500, in addition to whatever you spend on graphics software.

Figure another $100 to $1,000 for cables and adapters, Rees said, and at least a few hundred dollars more if you want to have the dealer set up and configure all the equipment. You should also check that everything works as planned.

"It's a lot more than I thought initially," said Vining-Sparks IBG's Allen. But, he said, video could make a big difference in how well his company can communicate to its customers and branch offices. Even at the $30,000 level, he said, "I still think it's going to pay off." □

Product Info

JVC PROFESSIONAL PRODUCTS CO.
DIVISION OF US JVC CORP.
BR-S611U S-VHS video recorder: $3,690; **BR-S605UA S-VHS video recorder:** $1,995; **ENG-11 color video camera and docking recorder:** $8,999; **VM-R140SU 14-inch multiformat monitor:** $1,300
41 Slater Drive, Elmwood Park, N.J. 07407
Phone (201) 794-3900 or (800) 582-5825;
fax (201) 523-2077

LOWEL-LIGHT MANUFACTURING INC.
Tota-Light kits — Tube Kit: $625; **Little T Kit:** $675; **Trans Kit:** $975; **T4 Kit:** $1,645; **Ambi Kit:** $1,695; **Solo Kit:** $2,650; **Basically 3 Kit:** $995; **Elemental Kit:** $1,095
140 58th St., Brooklyn, N.Y. 11220
Phone (718) 921-0600; fax (718) 921-0303

PANASONIC COMMUNICATIONS AND SYSTEMS CO.
DIVISION OF MATUSHITA ELECTRIC CO. OF AMERICA
AG-450 S-VHS Camcorder: $1,950; **AG-460 Twin-Chip S-VHS Camcorder:** $3,500; **AG-7750 S-VHS editing recorder:** $6,500; **AG-F700 timecode option:** $650; **AG-7650 S-VHS source deck:** $4,500; **AG-1960 S-VHS deck:** $1,300
1 Panasonic Way, Secaucus, N.J. 07094
Phone (201) 348-7000 or (800) 524-0864;
fax (201) 392-6610

SONY CORP.
EVO-9100 Hi8 Camcorder: $2,950; **EVO-9850 3/4-inch U-Matic SP edit recorder:** $8,850; **EVO-9800 3/4-inch U-Matic SP Player:** $5,800; **ECM-44 lavalier microphone:** $199; **PVM-1342Q 13-inch monitor:** $1,155; **Betacam SP 2000 Pro Series PVW-2800 editor/recorder:** $15,000; **PVW-2600 player:** $10,000; **DXC-537 camera and PVV-1 dockable deck:** $16,800
Business and Professional Group
3 Paragon Drive, Montvale, N.J. 07645
Phone (201) 930-1000 or (800) 523-7669

TRUEVISION INC.
NuVista+ with 2 Mbytes of RAM: $3,595
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fax (317) 576-7700

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FAST. Point blank, that's what your Macintosh IIsi or IIci becomes when you add-in a Sigma Designs Bullet 030™ accelerator card.

Bullet 030 offers your Mac accelerated system performance approaching the levels of a Mac IIfx. It comes with a 32 KB static RAM cache for additional processing efficiency and a built-in 40 MHz Stac hardware compression chip. Bullet 030 installs in the IIci cache slot, and SlotDoubler™ 030 PDS Adapter is included for installation in your IIsi. So you get the speed and compression features of Bullet 030 without sacrificing an expansion slot.

BULLET TAKES A FEW SHOTS AT THE COMPETITION		
Features	Sigma Designs Bullet 030	Daystar PowerCache
Price	$1,995	$1,999
CPU (Processor)	50 MHz 68030	50 MHz 68030
Static RAM Cache	32K	32K
Hardware Compression	Yes	No
DiskDoubler™ included	Yes	No
Warranty	5 years	1 year

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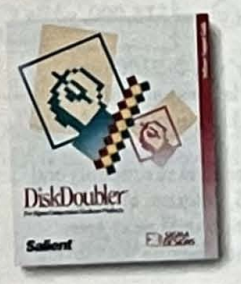

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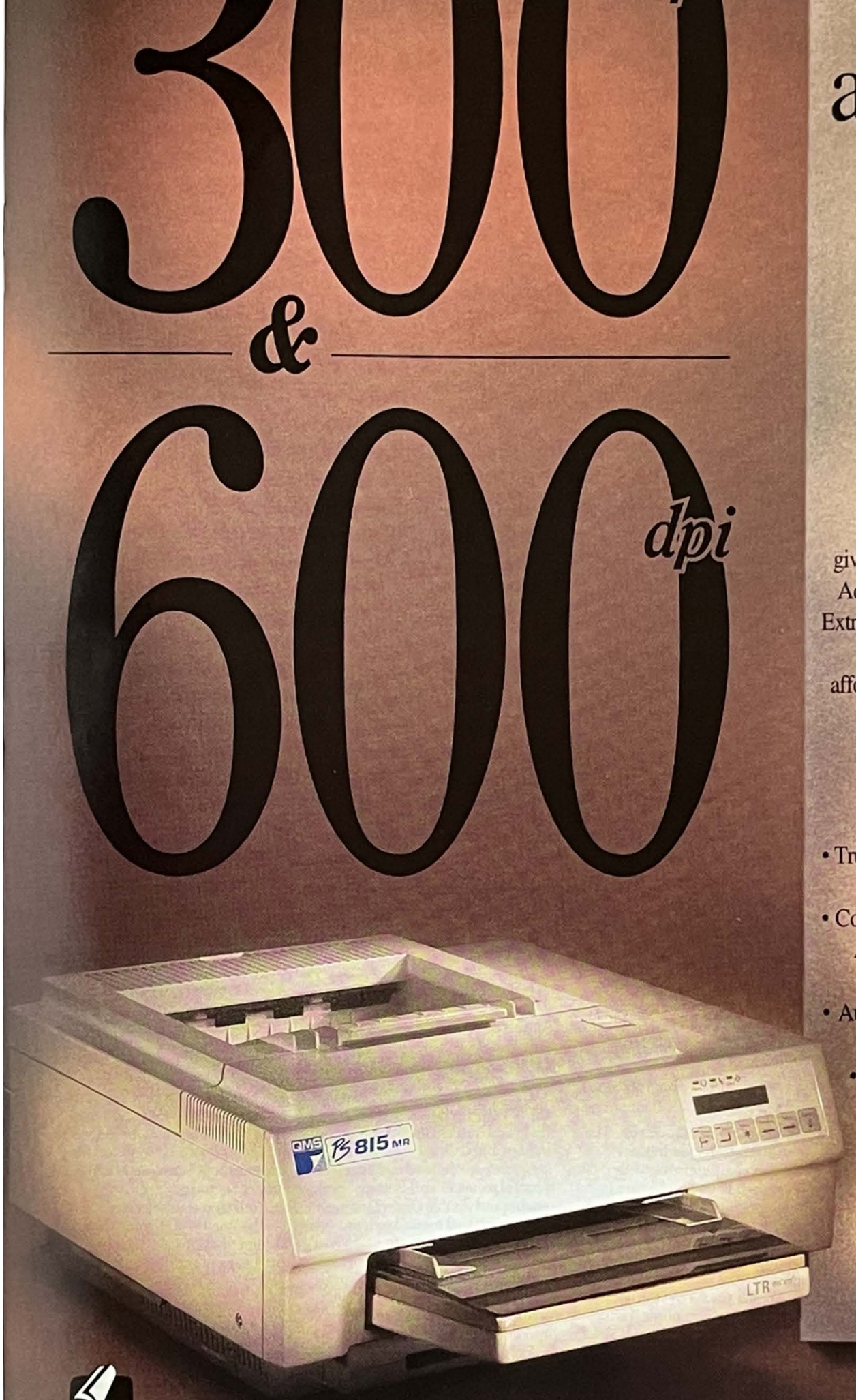

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GORDON STUBER

MacInTouch RIC FORD

The Macintosh has gotten out of control

There always have been bugs and problems in the Mac environment, but the excessive complexity of today's systems is hurting even veteran Mac experts.

ISSUES & TRENDS

Losing control. There always have been growing pains and compatibility problems with the Macintosh, from the grossly inadequate memory and software of the 128K Mac to the bug-ridden System 6.0 release and the voodoo of SCSI. Lately, we face problems of 68040 compatibility and 32-bit cleanliness.

What is disturbing is the increase in mysterious and intractable problems I am hearing about in on-line discussions and in conversations with Macintosh experts.

Crashes, freezes, trashed disks, unresolvable compatibility problems and random errors that cannot be reproduced by any reasonable sequence of operations — the bugs and glitches and problems are affecting not just naive users, but experienced Macintosh consultants and technical-support veterans. They are problems that often eat up days and weeks of people's time.

The Macintosh environment is out of control. No one is capable of effectively managing the infinite permutations of new hardware and software from Apple and other companies, system software versions, rapidly changing and bloating applications, and the plethora of essential system utilities and extensions from shareware authors and third-party vendors. Even Apple can't do it.

The price of power. The Mac has more power today than ever before, but it has lost the essence of its original personality: simplicity. Remember when the Mac was truly easy to use? No questions about FPUs and MMUs and CPUs. No ROM upgrades for expansion cards. No need for expert systems to sort out compatibility issues. We have lost this critical advantage of the Mac, and it looks as if it will not be returning any time soon.

When consultants and corporations have just as much trouble managing Macintosh systems as Unix and DOS systems, Apple starts losing its prime competitive edge, and buyers start looking more seriously at the other options. Apple is touting the friendliness and simplicity it owned in 1990, but Mac users are struggling to make their 1991 systems work, while other computers are catching up.

The bottom line is that the next-generation Mac operating system — the object-oriented system known as Pink, now headed for Apple and IBM Corp.'s Taligent joint venture — had better be designed from scratch with the same devotion to "elegant simplicity" as the original Mac. It will depend almost completely on the people chosen for the new project, and they will have to be very, very good to succeed. Any bets on the outcome?

PRODUCTS

CacheOut for Quadras. The new Macintosh Quadras are very fast computers, but only when their 68040 caches are in full operation. Many widely used programs, however, are currently incompatible with the '040's default copyback caching scheme, and when the caches are disabled via Apple's Cache Switch control panel, the fast computer starts performing like an ordinary Macintosh II. And with Apple's software, a restart is required to switch modes.

Zmac, the on-line service of MacWEEK and MacUser magazine, contracted with programmer Fred Hollander to develop a better solution to the problem. It is a control panel called CacheOut, available for downloading exclusively from Zmac.

CacheOut automatically switches the 68040's caches on and off as you open and quit incompatible applications and desk accessories. These programs are defined in a list in the control panel. On/off buttons enable and disable CacheOut itself, and an optional menu-bar icon shows the cache status.

With CacheOut 1.0, the current version at the time this was written, you may need to re-establish network connections after automatic cache switches. Turning AppleTalk off and on again in the Chooser will do the trick.

New versions of CacheOut are being developed, and we welcome on-line feedback about its design.

The program is available from Zmac's central download area, as a compressed file, CACHEO.CPT in Library 3 ("INITs, devs, FKEYs").

A similar utility also has been released by Alysis Software Inc. of San Francisco. Alysis' Compatibility control panel device is available from on-line services for individual use, but a license is required for organizational use (see MacWEEK, Nov. 11).

Both Compatibility and CacheOut are still going through design revisions, and the two programs may differ in features and reliability. □

Comments on MacInTouch are welcome at 7 Parmenter Ave., Maynard, Mass. 01754. Phone (508) 897-2621. Address electronic mail to 72511.44@compuserve.com from the Internet; to 72511.44 from CompuServe; to MACWEEKBOS from America Online, Delphi and GEnie; to RICFORD from MCI Mail or Connect. From AppleLink, 72511.44@compuserve.com@INTERNET# is the current address.

Join us on-line in the MacWEEK Forum by typing GO ZMC:MACWEEK on Zmac and CompuServe.

The Help Desk

Server log-in limits and a break with past fax

- According to a note in AppleLink's Tech Info Library database, there are strict limits on the number of AppleShare servers a Mac can be logged into at once. The Mac Plus can handle only three servers simultaneously; the Mac SE, Classic and Portable can be logged into eight; and the Mac II, LC, SE/30 and above (including all PowerBooks) can handle 18 servers. These limits apply to the number of servers, not the number of server volumes, and are independent of the amount of RAM in the client Mac. The number of volumes that can be mounted on the desktop is affected by available memory.
- In case you were wondering, the new PowerBook Fax/Data Modem cannot communicate with the older AppleFax modems in the latter's special data mode.

Ask David Ramsey

The way to a bigger PowerBook cursor

Q: *I love my PowerBook, but find the I-beam text cursor hard to see. Is there any way to make it larger or thicker?*

A: Yes, there is. The I-beam cursor is a resource in the System file, which you can edit with Apple's ResEdit program, but it's also a resource in the ROMs of the PowerBook. Therefore, you also will have to alter a ROM-override resource to force the PowerBook to use the edited cursor resource rather than the ROM version. It's intimidating, but you can do it.

First make a backup of your PowerBook's System file. Then run ResEdit and open the running System file on your PowerBook. You'll see a window full of strange icons with weird four-character labels. Look for the one labeled CURS and double-click on it. It will open into a small window with several icons, one of which will be the I-beam text cursor. Double-click on the cursor — you'll get a message that it's a compressed resource and that it'll be saved uncompressed if you change it. Click OK with a careless flourish, and you'll be in a simple icon editor that will allow you to change the icon to better suit the PowerBook's screen. Edit the icon (making it three pixels thick seems to work well) and close the editor and CURS windows.

Now open the ROv# resource and double-click on item No. 1660. Scroll to the bottom of the display and click on the last item, labeled *****. Select Insert New Fields from the Resource menu, and blank text fields labeled Type and Resource ID will appear.

Type in CURS (all caps) for the Type field and 1 for the Resource ID field. Now you're done. Quit ResEdit, answering all the questions it poses with OK, and you'll have your thick I-beam cursor.

Some applications, such as Claris Corp.'s MacWrite II, have their own I-beam cursors that you'll have to edit separately. And some, such as Microsoft Word, have cursors you can't easily edit. Experimentation (on a copy of the program) is the key.

Please send questions to David Ramsey on CompuServe: 76702,335 or to Ask David Ramsey, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.

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Source code: 11112H

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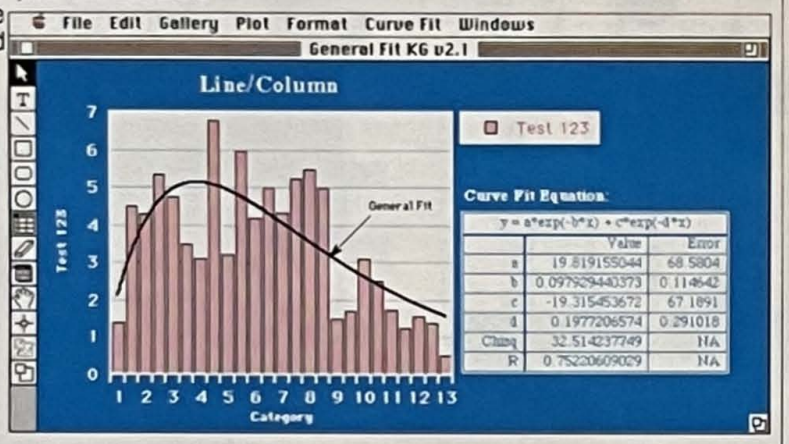

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KeyServer license management

KeyServer, providing concurrent-use license management for networks, is now available in two versions. The full-featured KeyServer ensures complete license and version control for any size network. KeyServer Light provides essential license management for the small lab or workgroup. Unequalled performance and a 90-day money-back guarantee make KeyServer and KeyServer Light the smart choice for keeping it legal.
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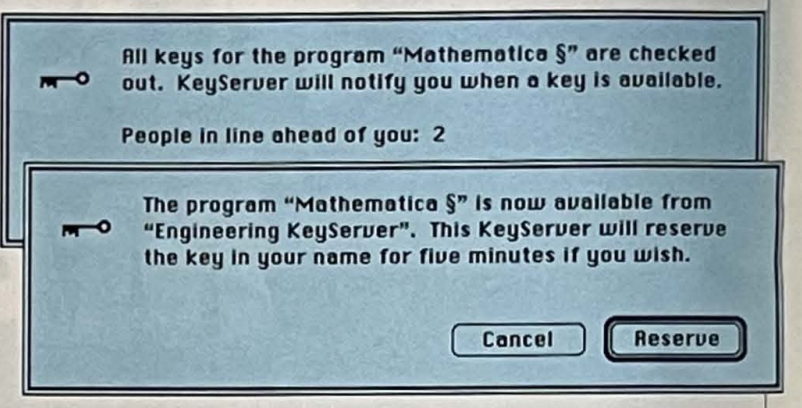
All keys for the program "Mathematica §" are checked out. KeyServer will notify you when a key is available.
People in line ahead of you: 2
The program "Mathematica §" is now available from "Engineering KeyServer". This KeyServer will reserve the key in your name for five minutes if you wish.
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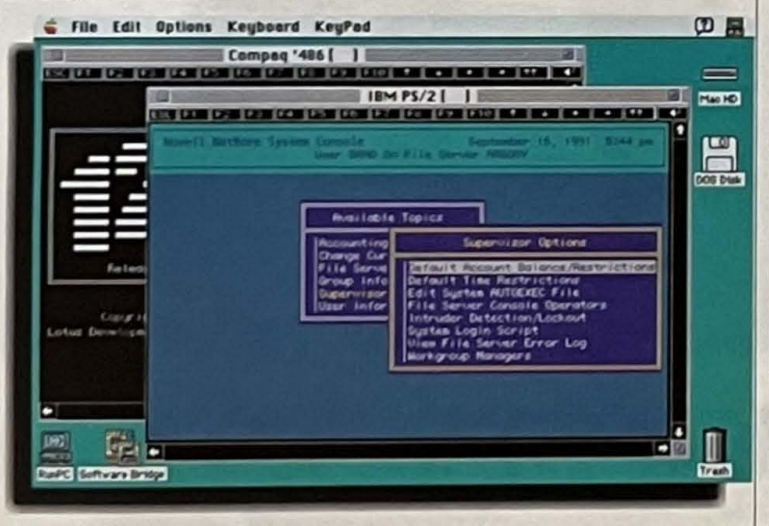

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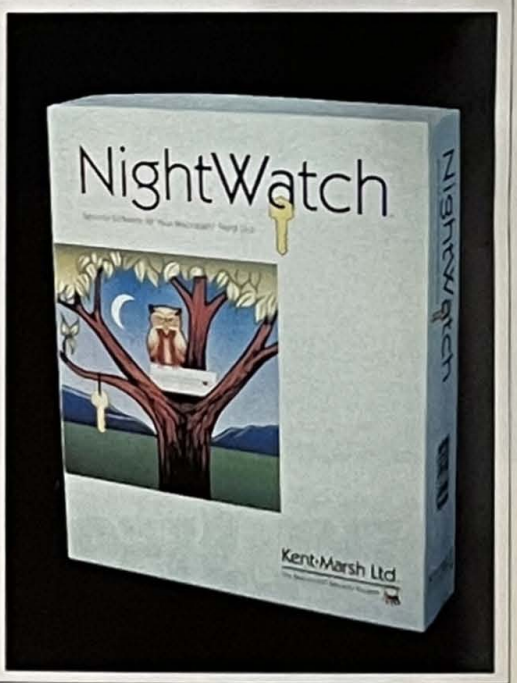

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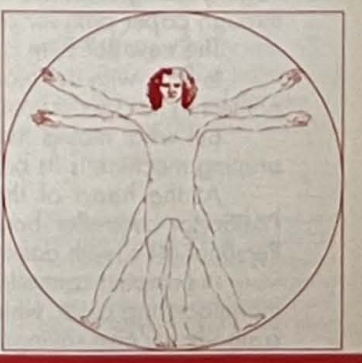

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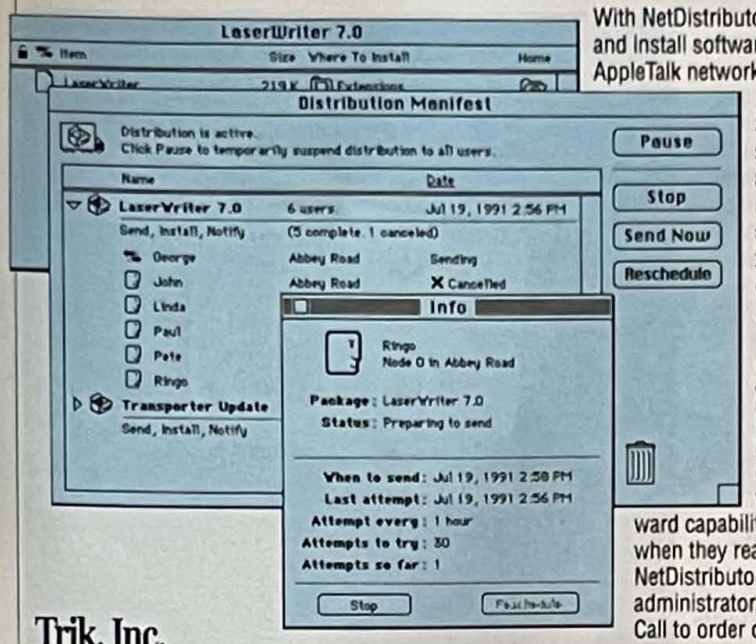

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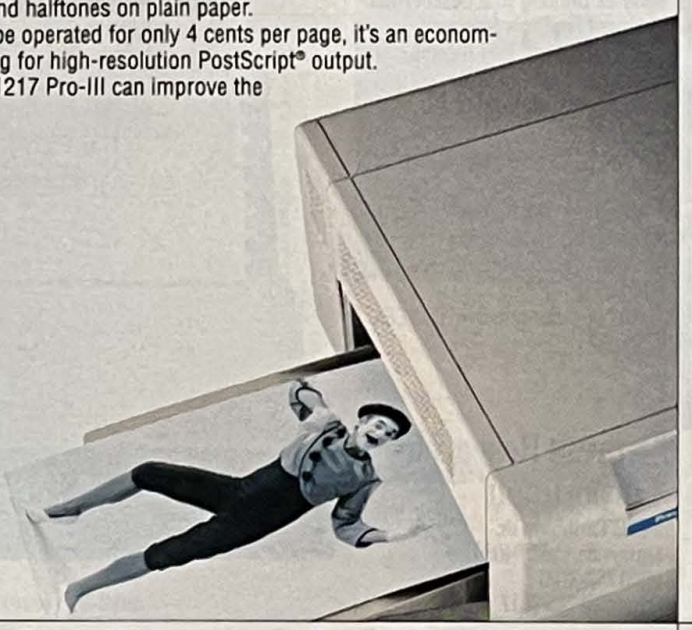

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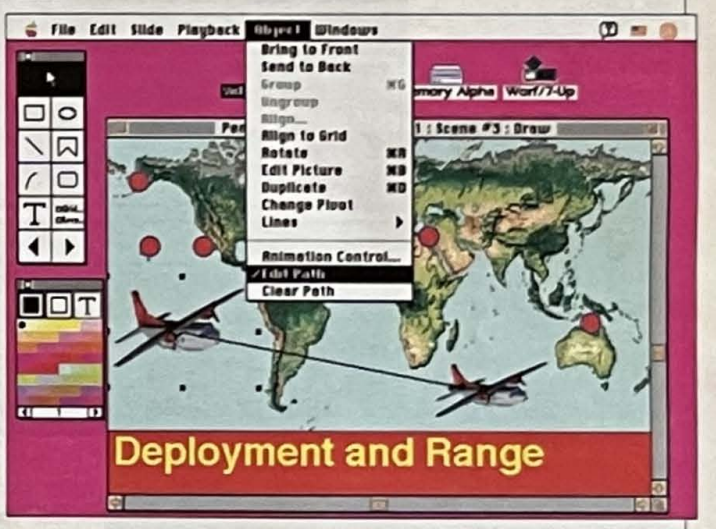

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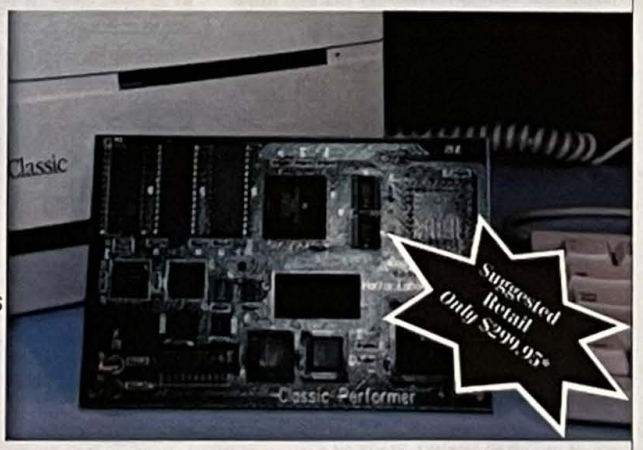

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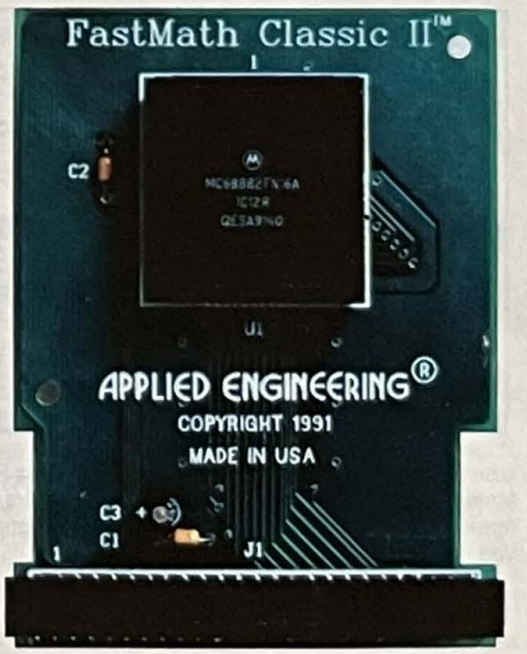

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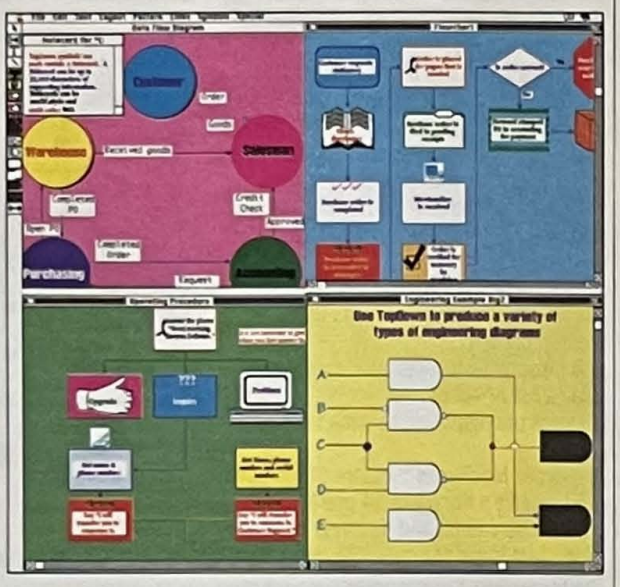

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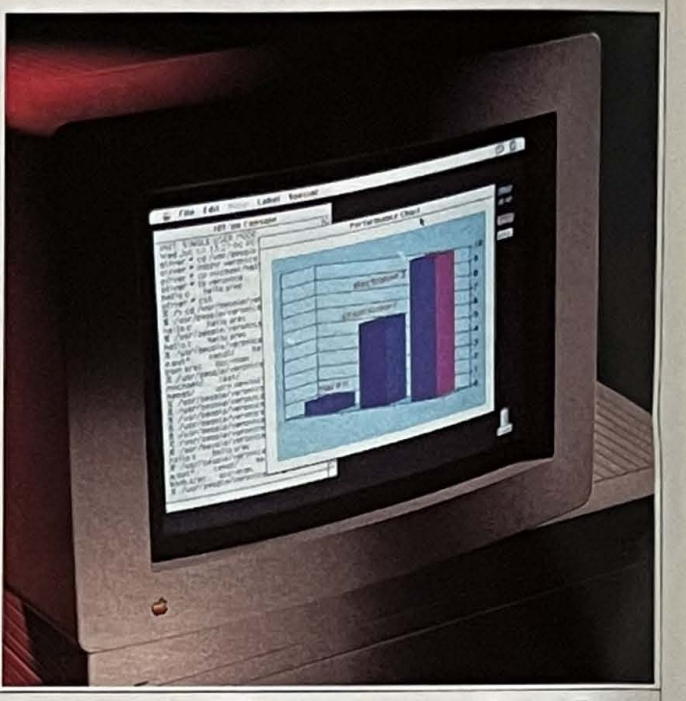

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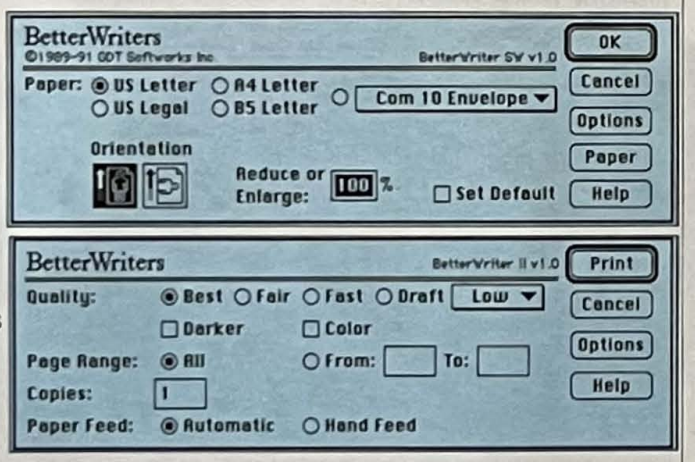

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Orders: (800) 663-6222 Voice: (604) 291-9121 Fax: (604) 291-9689 AppleLink: GDT.MKT

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FaxPro™ provides every Macintosh on any network the ability to send and receive faxes using one or more FaxPro modems. FaxPro's chooser selectable print driver interface makes sending faxes as easy as printing to a LaserWriter.
A few of FaxPro's features:

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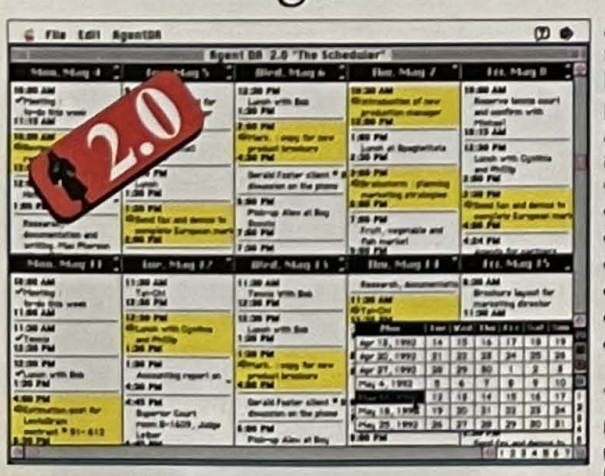

Agent DA is a desk accessory scheduler for the Macintosh family of computers that is fast, powerful and user -friendly. Agent DA 's flexible window will allow you to use it:

- as a personal agenda
- as a to-do list
- to track your appointments
- to schedule your meetings
- to schedule your workgroups
- to plan and track your projects
- to get organized simply and efficiently...

You can copy and move appointments simply by clicking and dragging. It is the ideal Time Management Tool for individual achievers who work in stand-alone situations (like on a PowerBook or Classic)but also want to access schedules on a LAN or Wan (works on the entire family of Apple Macintosh Computers). Agent DA 2.0 is System 7.0 compatible and was designed for Macintosh. Demo copies are 15.00$. Visa, MC accepted.

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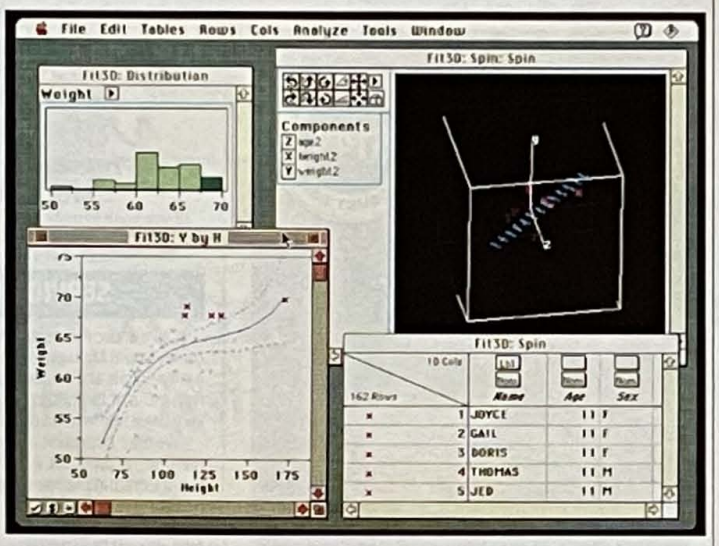

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Mac compatible notebook for $300

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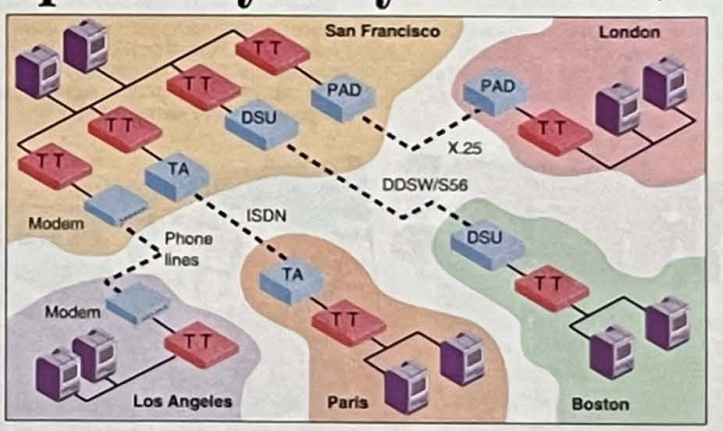

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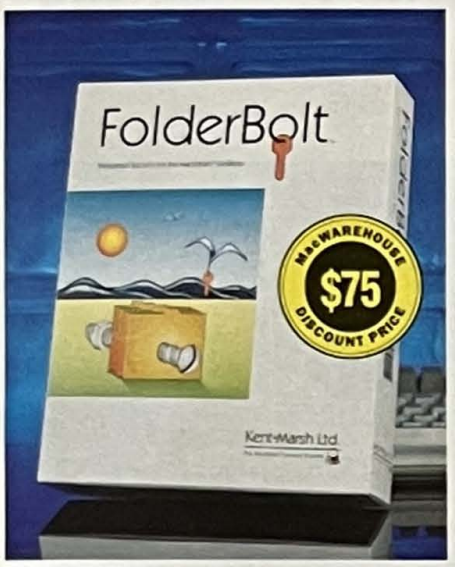

FolderBolt

(Kent Marsh) "FolderBolt compliments the desktop...Subtle yet sensible...Takes the edge off security...Redefines standards." MacTutor July 1991. Simply shift-click to create completely locked folders, read-only folders, or drop folders. Once locked they can't be opened, duplicated, deleted or moved until you double-click & provide the password. Features complete unlocking at start up, activity logging, and locking at shutdown. Includes full administrator override. FolderBolt is a welcome addition to the Mac security arsenal MacWeek June 1991. The only desktop security that's System 7 Savy **UTI0212**
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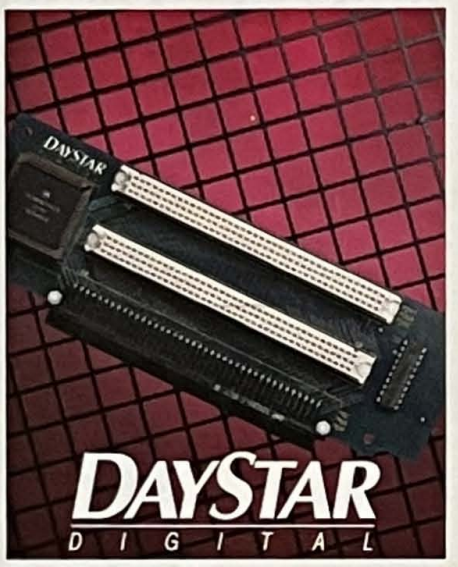

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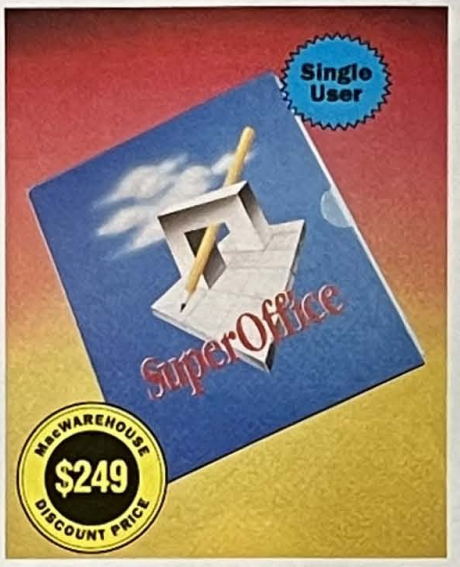

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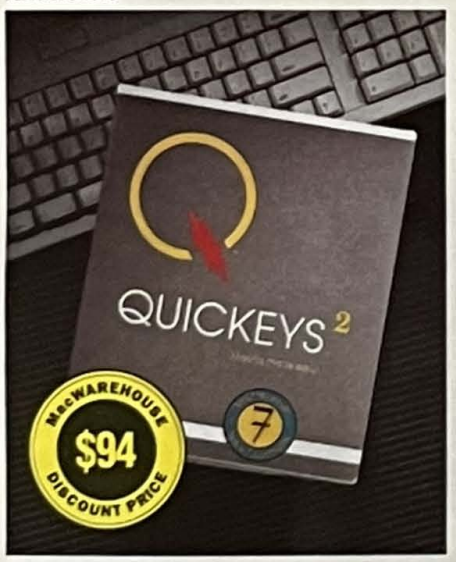
(ASD Software) "It's sleek,fast, and safe. I highly recommend it.": MacUser April, 1991. Protect your Hard Drives and Partitions from unauthorized access (including security bypass with a system diskette), copying and erasure; Applications and File/Folders (including system folder) from unauthorized access, deletion, and/or illegal copying; Desktop (including system folder) from alterations by unauthorized user. Keep an eye on System Usage with the system users log which continuously tracks user/group activity. System 7.0 compatible. **UTI0135** ***FaxFACTS 6806***

MacUser Rating 4/91



QuicKeys 2 v.2.1

(CE Software) Facilitates data being sent between applications, applications being launched, commands being executed, calculations made, and data returned to the user all without leaving the user's current working documents. Its 32 bit clean, and Apple Events Extensions and balloon help make it a System 7 Savvy product. Put macros into a menu so they work like a part of the application. QuickTimer activates macros at pre-set times and dates. With QuicKeys extensions you can write your own functions, or import specially written extensions for your favorite applications. **UTI0188** ***FaxFACTS 6529***

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(Magna) **Empower I** provides password security for your Mac. Only registered users with the correct password can gain access to data stored on floppy and hard disks. A screen saver hides displayed data from prying eyes. Can prohibit startup from floppies, and a log keeps track of all attempts to use your Mac. **Empower II** offers three forms of security. First, it restricts access to authorized users at the system level. Then it restricts access to folders and files with options to view only, or make changes. Finally, it provides optional, automatic, transparent encryption to protect sensitive data. System 7 Compatible. **Empower I UTI0225** ***FaxFACTS 6600***
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(Hayes) Provides you with everything you need to go on-line. This 2400 baud modem has a built-in call-monitoring speaker and two LEDs, plus both phone and computer cables. Included in the package is the Smartcom terminal software to make using your modem simple and convenient. It fully supports the Mac interface. It also emulates popular terminals, such as TTY and VT54/102, to make mainframe and mini access easy. File transfer protocols include XModem, and MacBinary. Smartcom even allows you to automate log-ons.
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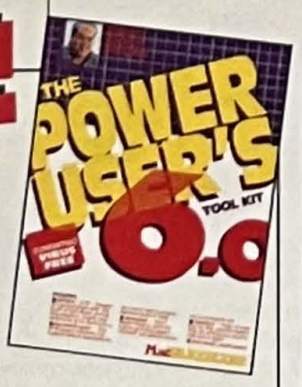

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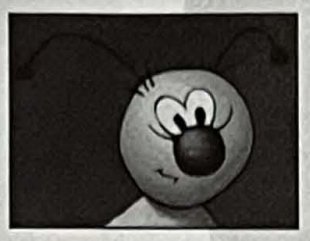

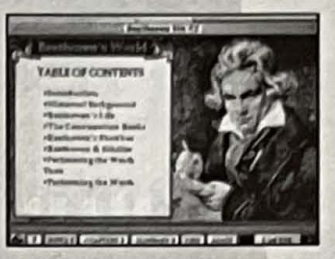

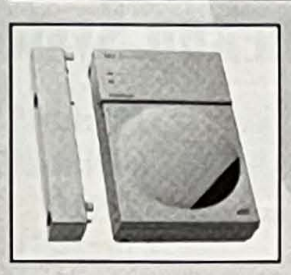

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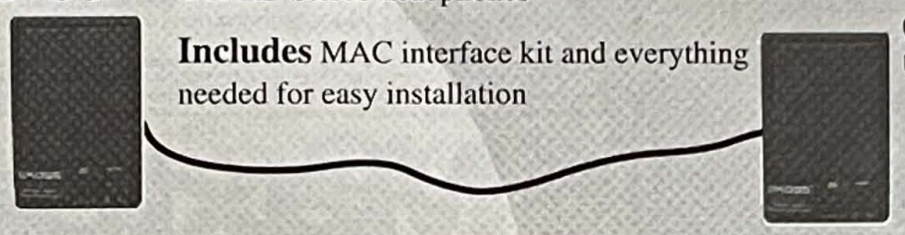

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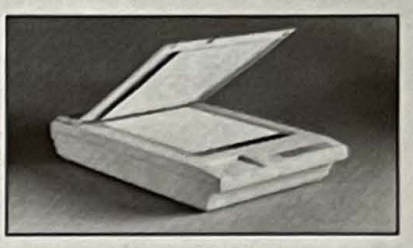

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Quantum Drives include a TWO Year Warranty and the Clubmac Package.
3.5" Half Height drives are the PRO series. 3.5" Low Profile drives are the LPS series.
*3.5" Low Profile, Low Power drives for the Mac Classic, LC, and IIsi. Quantum Drives include the ClubMac Package.

ClubMac Package:
Internal: mounting kit and *SCSI Director*™ Formatting Utility
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207mb	3.5" Half Height	13ms	$599	$659
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Two Page Display System $1275
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Monitors

21" Color Hitachi	$2764
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19" Color Hitachi	$1719
• Resolution of 1024 X 768 at 72 dpi	
19" Color Trinitron Sign. Series Black	$2640
• Limited Time Offer • Resolution of 1024 X 768 at 72 dpi	
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Graphic Display Boards

24si (13" 24-bit Accelerated)	$552
264/SE30 (13" 24-bit Color for SE/30)	$565
24XLi (21" 24-bit Accelerated Color)	$2150
8XLi (21" 8-bit Accelerated Color)	$921
8XL (21" 8-bit Color)	$430

MultiMedia Products

ColorBoard 364 (13" 24-bit Color Video)	$614
24STV (13" 24-bit Accel. Color Video)	$1106
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Graphics Accelerator	$265

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DoubleColor (8-bit Card for E16 & T16)Δ	$319

NEC

(NEC monitors below include MAC adapter)

MultiSync 3FGX (15" Color Monitor)	$659
MultiSync 4FG (15" Monitor w/ AccuColor Control System)	$789
MultiSync 5FG (17" Monitor w/ AccuColor Control System)	$1395
MultiSync 6FG (21" Monitor w/ AccuColor Control System)	$3049

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EPSON

EPL-7500 Laser Printer $1895
- TRUE Adobe PostScript
- High-speed RISC processor
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- HP LaserJet Series II Emulation
- 6 ppm • 35 resident fonts
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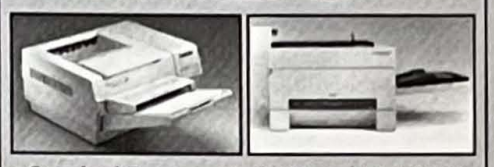
NEC



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- AppleTalk Interface
- 35 scalable fonts
- 2 MB RAM std, up to 4 MB
- FREE 90 Day On-Site Service

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Thick/10BaseT, 64K	$239
Thick/Thin/10BaseT, 64K	$249

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Fax Modems and Modems

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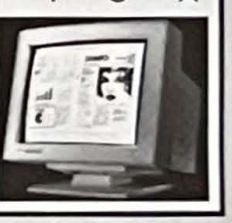

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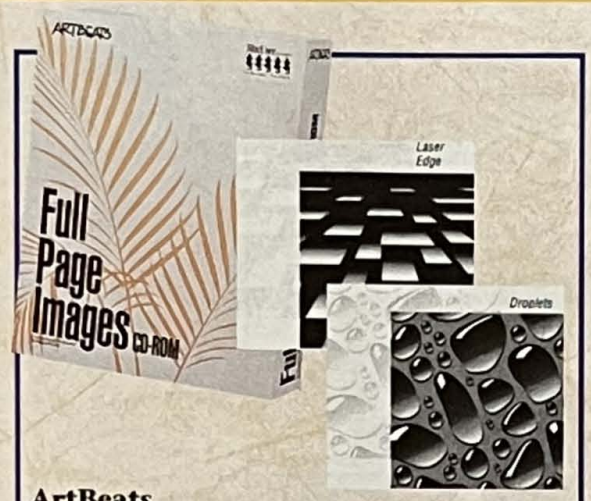

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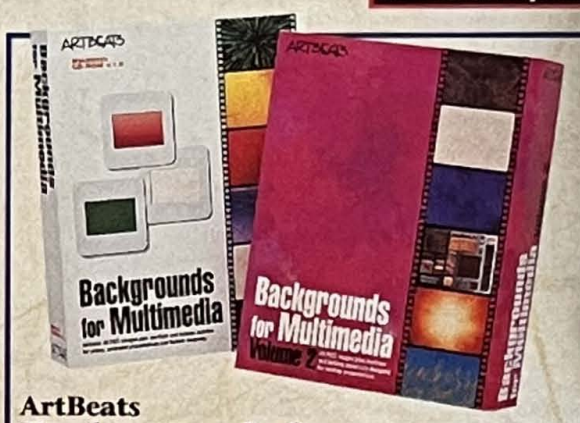

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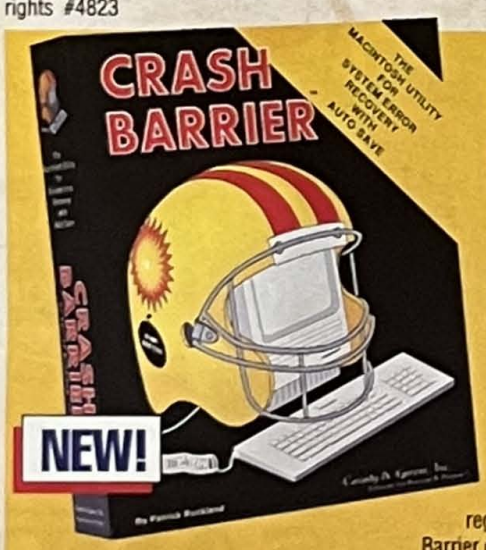

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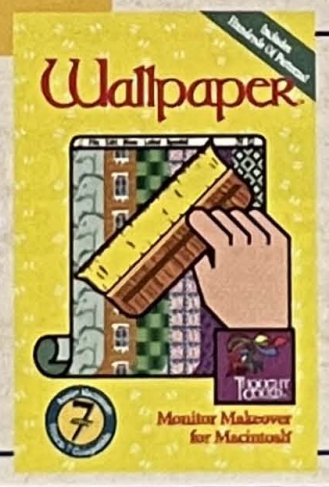

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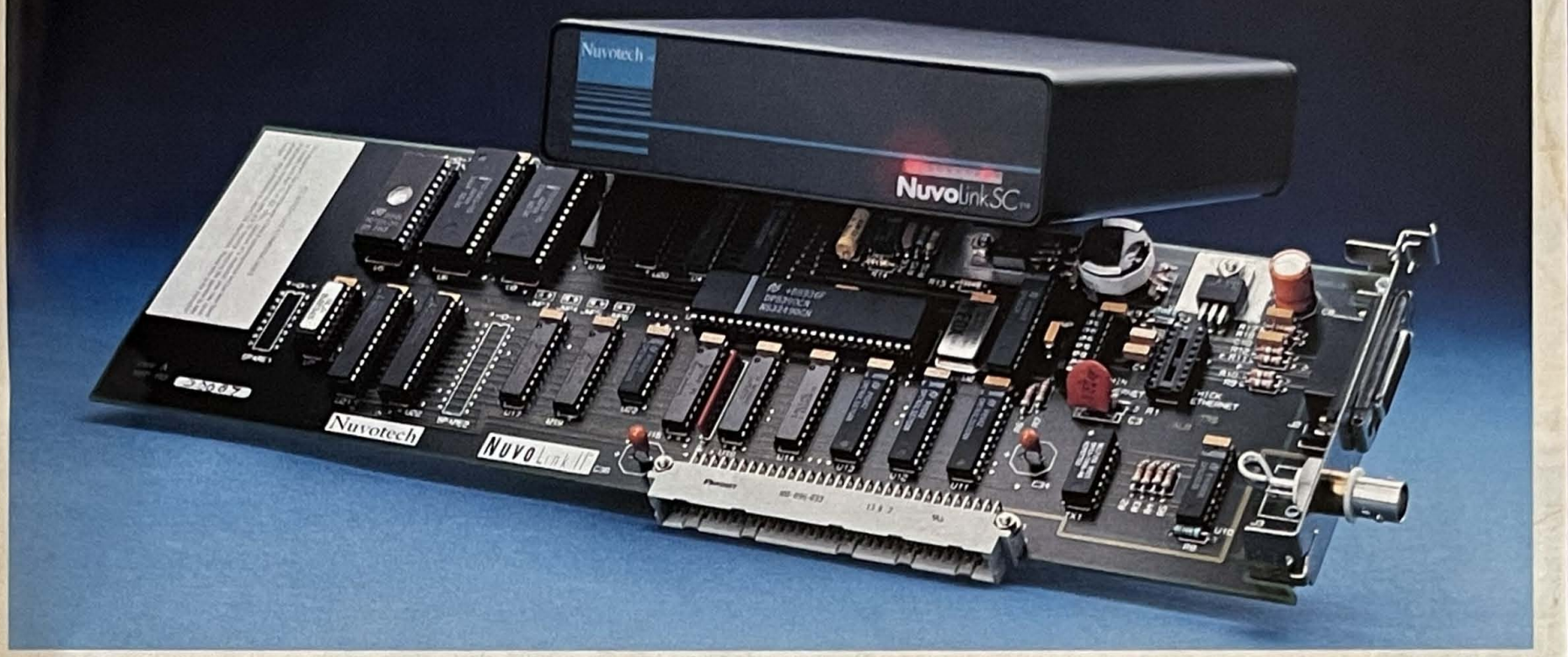

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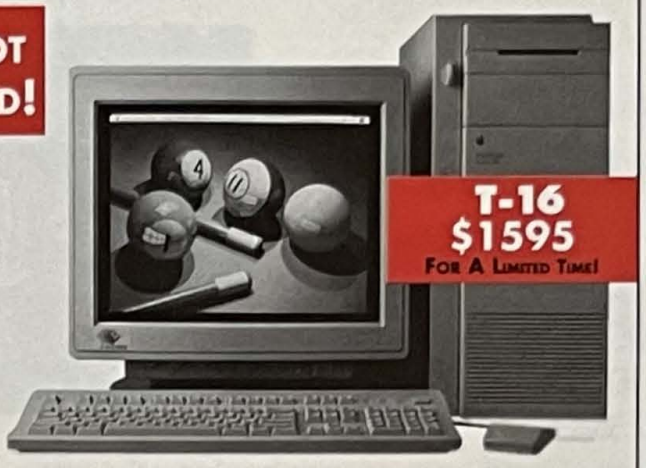

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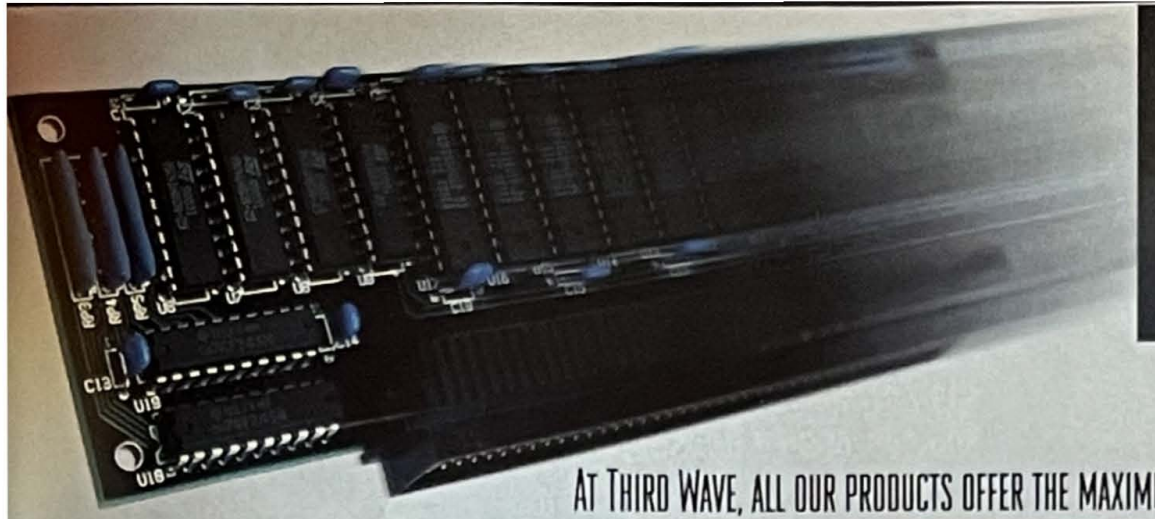

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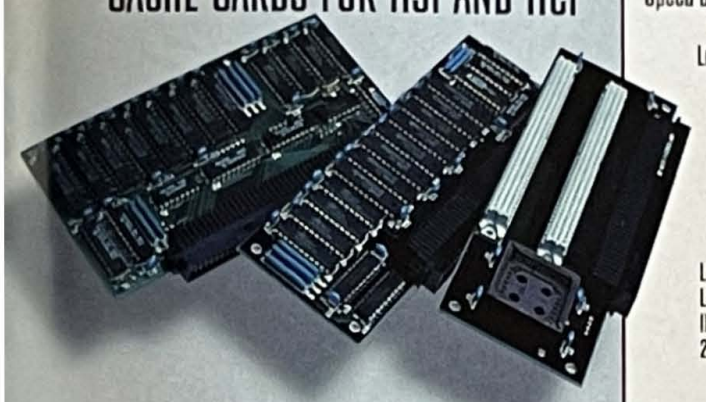

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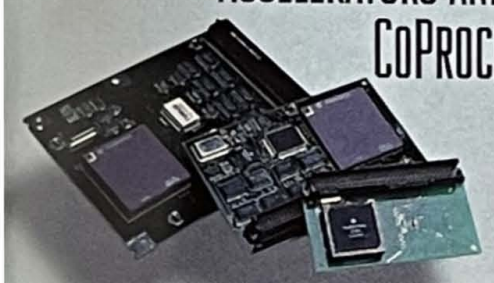

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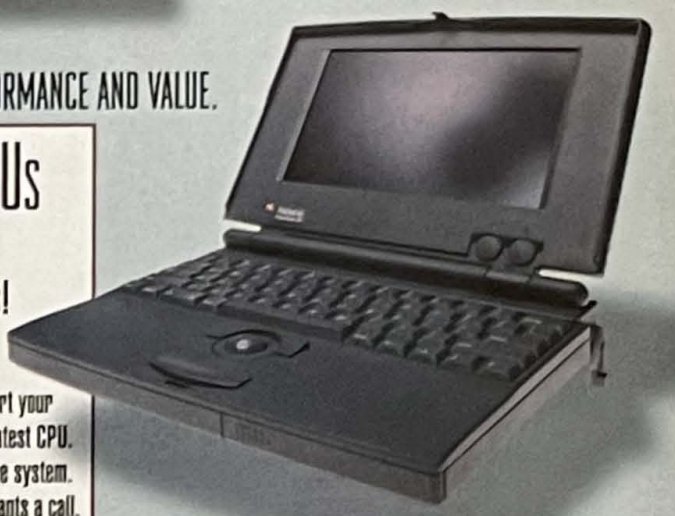

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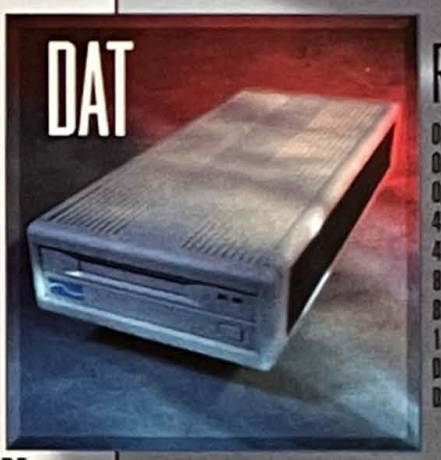

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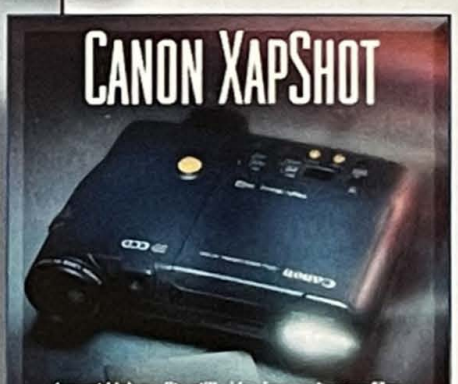

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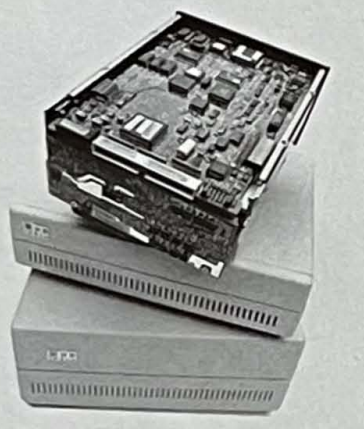

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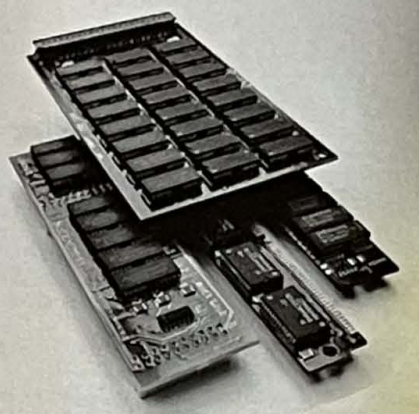

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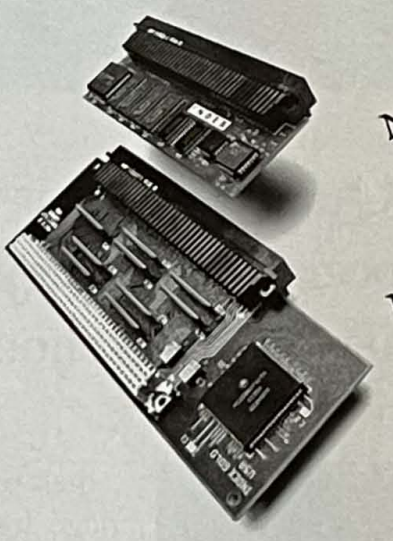

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On-board 68882/20 MHz math co-processor with adaptor for Macintosh IIsi. ***Benchmark*** software included.

- **Index Mac IIsi 030 Direct Slot Interface™** $99.00

NEW

Accelerate math-intensive operations on your LC operations by up to 39% with a 68882/16 MHz math co-processor —and get a 15% overall CPU improvement. ***Benchmark*** software included.

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Increase the speed of your Mac IIci up to 33% with MacTel's new CachePro card. Easy to install and DA controlled.

- **Index CachePro™ / Mac IIci** $119.00

Storage Solutions

MacTel offers you a number of storage and back-up solutions, including a complete line of Index hard drives. Three of our drives have been rated 4 mice by *MacUser* Labs: the MacTel 45R drive (2/91), the Index 1.2 Gb drive (7/91) and the MacTel 2 GB DAT drive (10/91).

Removable - Optical - Tape

- **Index 45R w/1 cartridge** $479
- Index 88R w/1 cartridge $699
  Index 45R and 88R are bundled with ***Backmatic®*** and ***AutoSave®***
- SyQuest cartridge SQ 400 ..... $69
- SyQuest cartridge SQ 800 ..... $119
- **2 GB DAT drive *w/Retrospect* software and 1 tape** $1499

NEW
- 1 GB Tahiti optical drive w/1 cartridge $3699

Keyboards

MacTel's Index™ line of ADB extended keyboards have an 105-key layout, 15 function keys, cursor control keys and number pad. The foreign language keyboards are bundled with their respective system software, Apple 6.0.7.

Index extended keyboard

- English $99
- French, German, Swiss (German & French) $119

NEW
- Spanish $119

Index™ Hard Drives

The Index HD™ formatter is System 7 compatible and supports partitioning, password protection and is A/UX compatible.

Quantum drives Index 3.5"

	Internal	External
52 Mb, 12 ms, Slimline	$249	$329
105 Mb, 12 ms, Slimline	$349	$399
210 Mb, 12 ms	$619	$699
425 Mb, 12 ms	$1449	$1529

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320 Mb, 16ms	$1179*	$1279
330 Mb, 10.7 ms (Runner)	$1299*	$1399
640 Mb, 16 ms	$1459*	$1559
650 M 16 ms (Runner)	$1849*	$1949
1.2 Gb, 16 ms	$2199*	$2299

*Mac II and IIx only

Macintosh CPUs and Systems

- Mac IIsi 3/40 ..... $2497
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- Mac IIfx ..... $Call
- Mac LC ..... $Call
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- 3 Year Warr.50,000 Hrs MTBF
- 14ms access time!
- Incredibly Reliable!
- Perfect internal for all Macs!*

- All 3.5" Drives are available in zero footprint (including a 40watt power supply, and dual AC outlets), or micro cabinets as well as internal for all Mac's.
- All 5.25" Drives are available in zero footprint external (including a 65 watt power supply, cables, and ext. terminators) or as internals for the Mac II, IIx, and IIfx.

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90 MB	3.5"3yr warr, 50,000 MTBF	$298	$368
135 MB	3.5"3yr warr, 50,000 MTBF	$378	$448
185 MB	3.5"3yr warr, 50,000 MTBF	$498	$568
330 MB	3.5" 5 yr warr., 200,000 MTBF*, 9ms Access	$1248	$1348
425 MB	3.5" 5 yr warr., 200,000 MTBF* 9ms Access	$1348	$1448
520 MB	3.5" 5 yr warr., 200,000 MTBF* 9ms Access	$1448	$1548
357 MB	5.25" Full Hght 16ms 200,000 MTBF*	$1098	$1198
680 MB	5.25" Full Hght 16ms 200,000 MTBF*	$1288	$1388
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Introducing Hitachi Drives

5 Year Warranty! 150,000 Hours MTBF!*

		Internal	External
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* Mean Time Between Failure is the average life expectancy of a drive.

DAT Tape Backup

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ArDat 2.1 Gig Capability.....$1398

- Up to 10 mb per minute backup time
- Includes SoftBackup II for Fast network and unattended backup capabilities

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44MB REMOVABLE.....$448.00
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- 19ms Access time
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- Dual AC Outlets, 40 Watt power supply
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Ricoh Optical

600 MB Optical $1998

- Read/write reliable storage
- 66ms Access Time
- Great for archiving, color scans etc.

Introducing CD ROM

Toshiba 3301.....$568
- Includes driver CD carrier and cables
- 325ms access time

Chinon CDC-431 .....$598
- Includes driver CD carrier and cables,
- 350ms access time, includes 12 function audio remote control

JX-9500PS Sharp Printer 35 Fonts

JX-9500PS 35 Fonts $1598.00
- 2.5 mb Ram Memory
- Adobe Postscript
- 35 Fonts, 6 page per minute
- Letter, legal and transperancies
- Includes Appletalk interface!
- Sharp is the manufacturer of the engine of the TI Microlaser.

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These Fujitsu External floppy drives have a one year warranty. Completely compatible. These are brand new slimline drives and they look great!

These drives retail for $259!

Fujitsu 800k
$99.00!

Quantum Drives/Wren Drives

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Q 105 MB 3.5"LPS	$368	$448
Q 120 MB 3.5"	$448	$548
Q 170 MB 3.5"	$598	$688
Q 210 MB 3.5"	$688	$748
Wren 337 MB RUNNER	$1398	$1498
Wren 600 MB F/H	$1598	$1698
Wren 630 MB RUNNER II	$1998	$2098
Wren 1.2 Gig	$2298	$2398

Monitors!

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w/National Semiconducter 24Bit.....$2298
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19" Ikegami Grey Scale Sys. $1098
19" Trinitron Color Sys. $2398
Ikegami CT-20...Natl. Semi. 24Bit $3198
14" GoldStar Color Sys. $368
14" NEC Color System.....$438

The GoldStar 14" is plug compable with IIsi, CI and the LC

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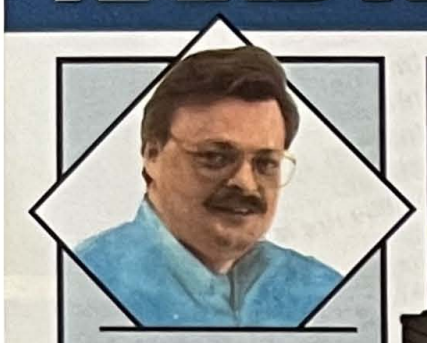

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PostScript® Level 2 is the next generation of Adobe's page description language. It contains a number of significant performance and print quality enhancements, and is compatible with all current applications which support the PostScript® language.

Best of all, the time-saving features of PostScript® Level 2 are available RIGHT NOW in our RealTech Laser and RealTech Laser 400:

• **IMPROVED MEMORY MANAGEMENT.** One pool of memory is available for all resource needs. Dynamically allocated and automatically reclaimed; no arbitrary memory restrictions exist. Better disk space management eliminates fragmentation and improves transfer of information from hard disk to RAM.

• **ATM FONT RENDERING TECHNOLOGY.** Raw characters are built 4 to 5 times faster.

Features available through software applications:

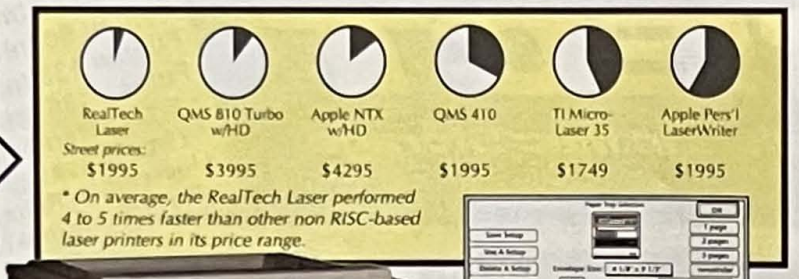
• **COMPRESSION.** Reduces transmission time by sending compressed files directly to the printer.

• **FORMS SUPPORT.** You can define a base form whose representation stays cached in the printer.

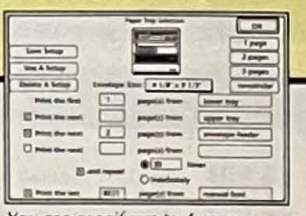
• **COMPOSITE FONTS.** Handles very large character sets and non-horizontal writing modes."

Réal Provencher

President
Hardware That Fits



** On average, the RealTech Laser performed 4 to 5 times faster than other non RISC-based laser printers in its price range.*



You can specify up to 4 paper changes without moving anything but your mouse!

RealTech Laser

Only $1995!

500% faster!*

- RISC processor
- 2 paper trays
- 9 pages/minute
- SCSI port

2 Mb RAM, upgradable to 10 Mb! *The only printer of its kind with this much RAM and hard disk expansion capability.* Includes a SCSI port for a hard disk. The RealTech Laser includes 35 resident PostScript® typefaces. Compact design (only 33.5 lbs.; measures 13.4"W x 14.2"D x 10.9"H).

PC-compatible; its 3 interface ports can be used at the same time. Includes Appletalk® RS-422, IBM PC parallel, and RS-232-C serial interface ports (can be assigned either PostScript® or LaserJet II commands). Auto switches between interfaces, and spools files on a real-time basis. A Hewlett-Packard LaserJet Series II emulation allows use with non-PostScript® applications software.

POSTSCRIPT® Software From Adobe LEVEL 2

The RealTech Laser and RealTech Laser 400 were specifically designed for sophisticated graphics and font-intensive applications. For speed and performance, they're based on a RISC-based (Reduced Instruction Set Computing) processor and PostScript® Level 2 software from Adobe.

TWICE THE PRINTER.
400 dpi, 11x17 printer

High speed!

- RISC processor
- 16 ppm (letter size)
- 8 ppm (11x17)
- SCSI port
- 2nd paper tray

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TI TurboLaser™. 300 dpi with Adobe PostScript Level 2 and RISC-based processor. 2.5 Mb RAM. Nine pages per minute; 35 resident fonts; 10,000 pages per month duty cycle. Optional accessories: 2nd paper tray, SCSI interface.

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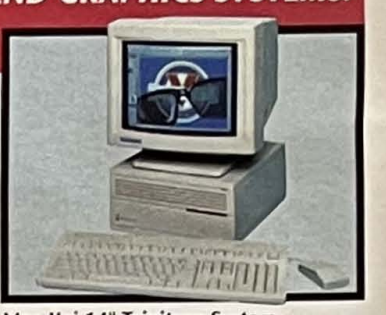
5 Mb RAM, 105 Mb Quantum, Mac-Pro Plus Keyboard.....3629



Mac IIci 14" Trinitron System:
5 Mb RAM, 105 Mb Quantum, Mac-Pro Plus Keyboard, Cache Card ...3845

Mac IIfx 19" Ikegami System:
1 Floppy Drive, 8 Mb RAM, 303 Mb MicroNet Hard Drive, 8-bit Color Monitor and Video Card, MacPro Plus Keyboard.....8449

Mac IIci B/W 21" Dual-Page System:
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ColorBoard 24SI	669
ColorBoard 24XLi	2349
ColorBoard 24STV	1199
ColorBoard 24XLTV	2689
ColorBoard 264SE/30	599
ColorBoard 8LC	599
ColorBoard 8XL	469
CorrectColor Calibrator	2019
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TV Tuner	335
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CPU	Monitor	Price
Mac SE	Mono	$995
Mac II, IIcx, IIci IIx, IIfx, SE30	Mono GS 256	995 1479
Mac IIsi	Mono	1059

RealTech Full Page Display

$579

Quality, flicker free images at a price that lets you experience the convenience of large screen viewing.

15" portrait display has 870 x 640 resolution, 80 dpi. Vertical refresh rate of 74 Hz, full grayscale capability, and flat CRT, (P4 phosphorus), polished screen. One-year warranty.

CPU	Monitor	Price
Mac II, IIcx, IIci, IIx, IIfx, SE, SE/30	Mono	$579
Mac II, IIcx, IIci IIx, IIfx	GS 256	1079
Mac IIsi, IIci	GS 16	495

$1429

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Scanmaker 600ZS Color Scanner includes Adobe Photoshop — full version, with 24-bit color editing and color separation capabilities.

High-resolution color scanner capable of scanning 16 million colors at up to 600 dots per inch. Outstanding image quality in a compact, flatbed design.

- 16.8 million colors
- 3 scanning passes (red, green and blue filters)
- 14 brightness settings for each color plane
- Scanning speed 150 seconds

$2095

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The affordable 35mm color slide scanner. Scans landscape or portrait slides at 1850 dpi. Captures 24-bit color and 8-bit grayscale. Bundled with PhotoShop, you'll be able to produce 4-color separations from your color slides. A great scanner at a great price!

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INTRODUCING *the RealTech Trinitron*

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The monitor solutions that break the price barrier for 19" Trinitrons!

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CPU	Monitor	Price
Mac II, IIx, IIcx, IIsi*, IIci, IIfx, SE/30, LC, Quadra 700 & Quadra 900	8-bit system	$1899
Mac II, IIx, IIcx, IIci, IIfx, Quadra 700 & Quadra 900	24-bit system (accelerated)	$2899

**IIsi solution retains PDS slot for the RealTech cache card.*

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Infinity Turbo 88	829
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Q 210S	709
Q 425S	1389

External Hard Drives

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Q 105LP	455
Q 210S	795
Q 425S	1475

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Electrostatic 12 x 18	1249
Standard 12 x 12	779
Standard 12 x 18	1169
Standard 6 x 9	549

Choice of stylus or 4-button cursor. CALL FOR OTHER SIZES AND TYPES.

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Zoom 2400 w/send/receive	119
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Zoom 9600 V.32/V.42 bis	419

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"...cache cards are simple, efficient, cost-effective enhancements for an already speedy Mac."

— MacUser, June 1991

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— Réal

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FastMathLC	155
LC Heavy-Duty Power Supply	99
Quick Silver	219

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TokaMac 68040 Accelerator Boards

Highest performance upgrade available for the IIci, IIsi, SE/30 or LC. TokaMac runs applications up to 300% faster than a IIfx!

Provides significant productivity improvement to users whose primary applications include CAD, multimedia, graphics, modeling, simulation and analysis, animations, spreadsheets, and heavy "number-crunching" routines. Processes at 20 MIPS and 3.5 MFLOPS. System 7.0 compatible; no re-booting required.

TokaMac CI	2149
TokaMac SX (SE/30 and Si)	2019
TokaMac LC	1879

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Hypernet Din 8 Connectors	27
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DaynaPORT-T	199
DaynaPORT-T w/FP	299
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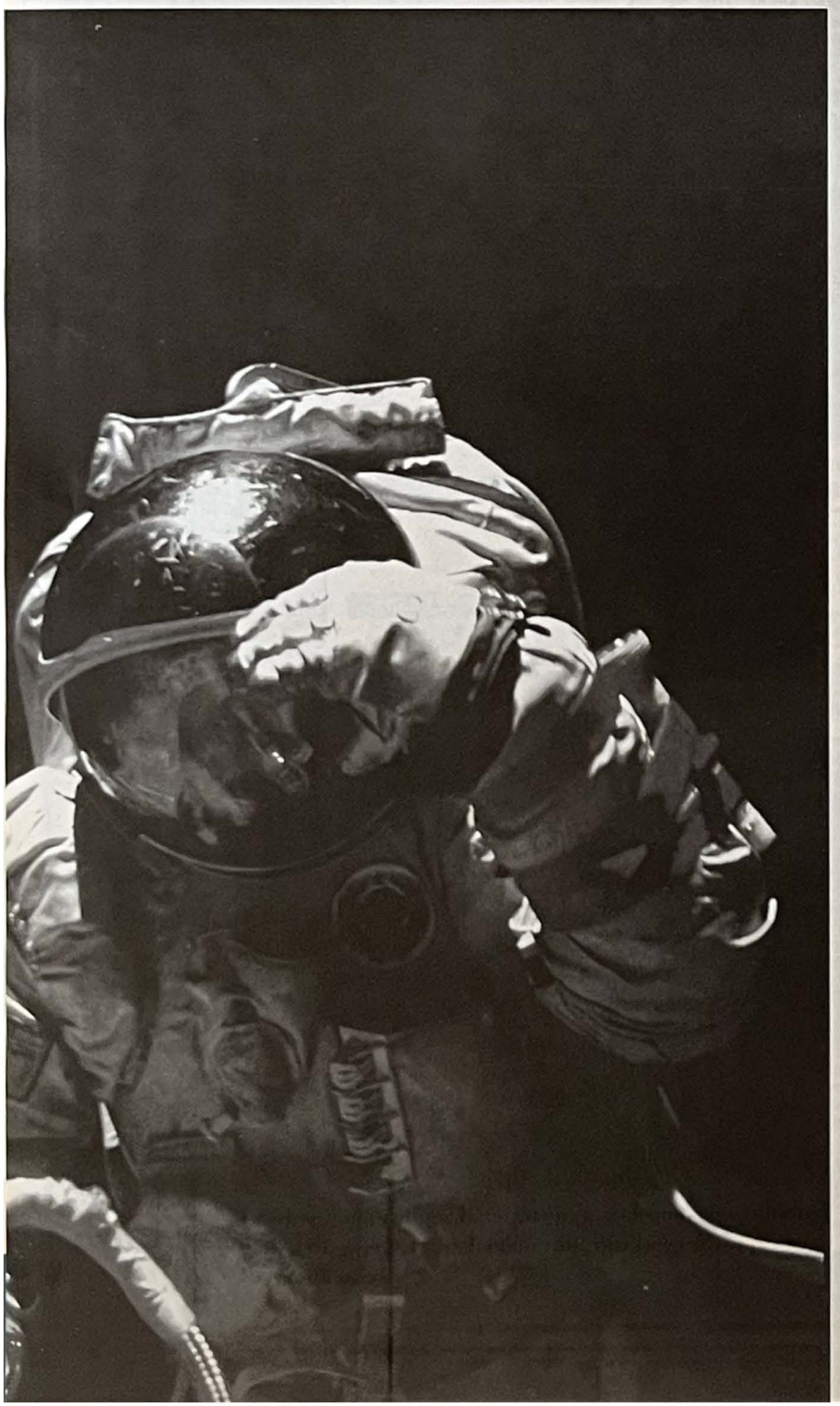

Magellan 040 — for Mac IIci, IIsi, SE/30

Deadlines are getting tighter. It's hard to stay calm when you're waiting for your Mac to catch up.

You need acceleration — but you can't waste time with flakey products that go real fast — until they crash. And crash. And crash. Turning lead-times into lag-times.

We've been making award-winning '030 accelerators since 1987. We *know* how important compatibility is. And so our new '040 products are in a class by themselves.

With Magellan 040, your Mac gains the workstation power of a 25MHz Motorola 68040. But everything else stays the same — no expensive extra SIMMs, no risk of power supply overload, no arcane or complex software. Just a simple user interface, and lots and lots of phenomenal speed.

Magellan 040 snaps right into your PDS slot, for easy installation and maximum power. And the PDS connection promotes excellent hardware compatibility. That's why the majority of current applications run perfectly.

Magellan 040 increases the number-crunching power of a IIci by 400% to 800%. Graphic work, like the image manipulation we used for this ad, is up to 400% faster on a Magellan 040-equipped IIsi.

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Magellan 040. The right tool for challenging your outer limits.

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TOTAL SYSTEMS

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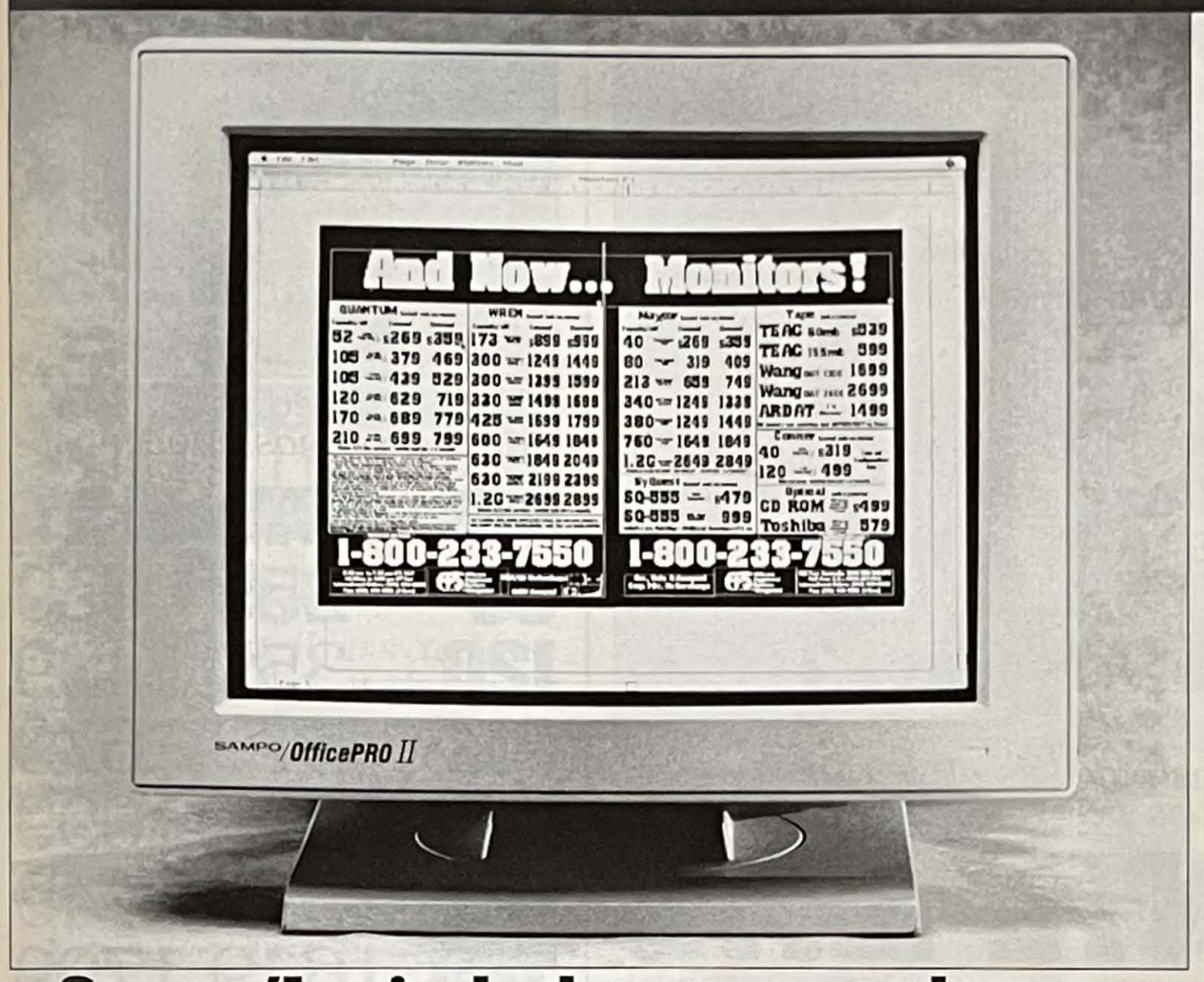
Dual Page Monitor 20" $799



Res ..... 1024 x 768
Tube..... 20" diag.
DPI 72
Interface..... Lapis
Display ..... Mono
Sweep Vert ...78.2Hz
Sweep Hor 63.9Hz
Power Con 65w
Voltage ..10-230V sel.
Cert ..... UL
FCC .....Class B
Warranty .....1 yr.

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High-resolution, black and white Macintosh display system featuring:

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One-year monitor-for-monitor replacement warranty.

Full-line compatibility with Macintosh "Nubus" and "PDS" machines.

Allows dual-screen operation with Mac SE and SE/30 models.

Full System 7.0 compatibility and operation.

20" diagonal monitor with 1024 x 768 pixel resolution.

Ideal display size for many desktop publishing or CAD/CAM applications.

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2 Drives
3 More Drives

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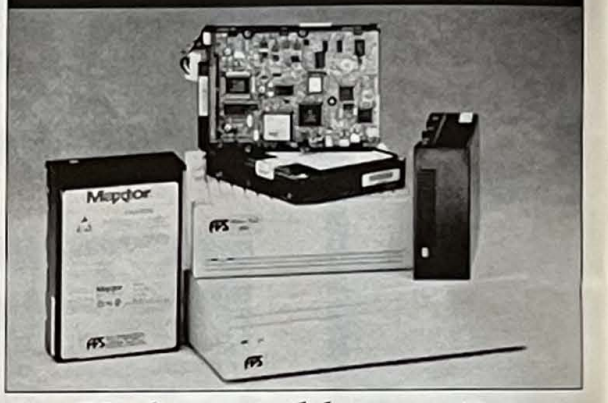

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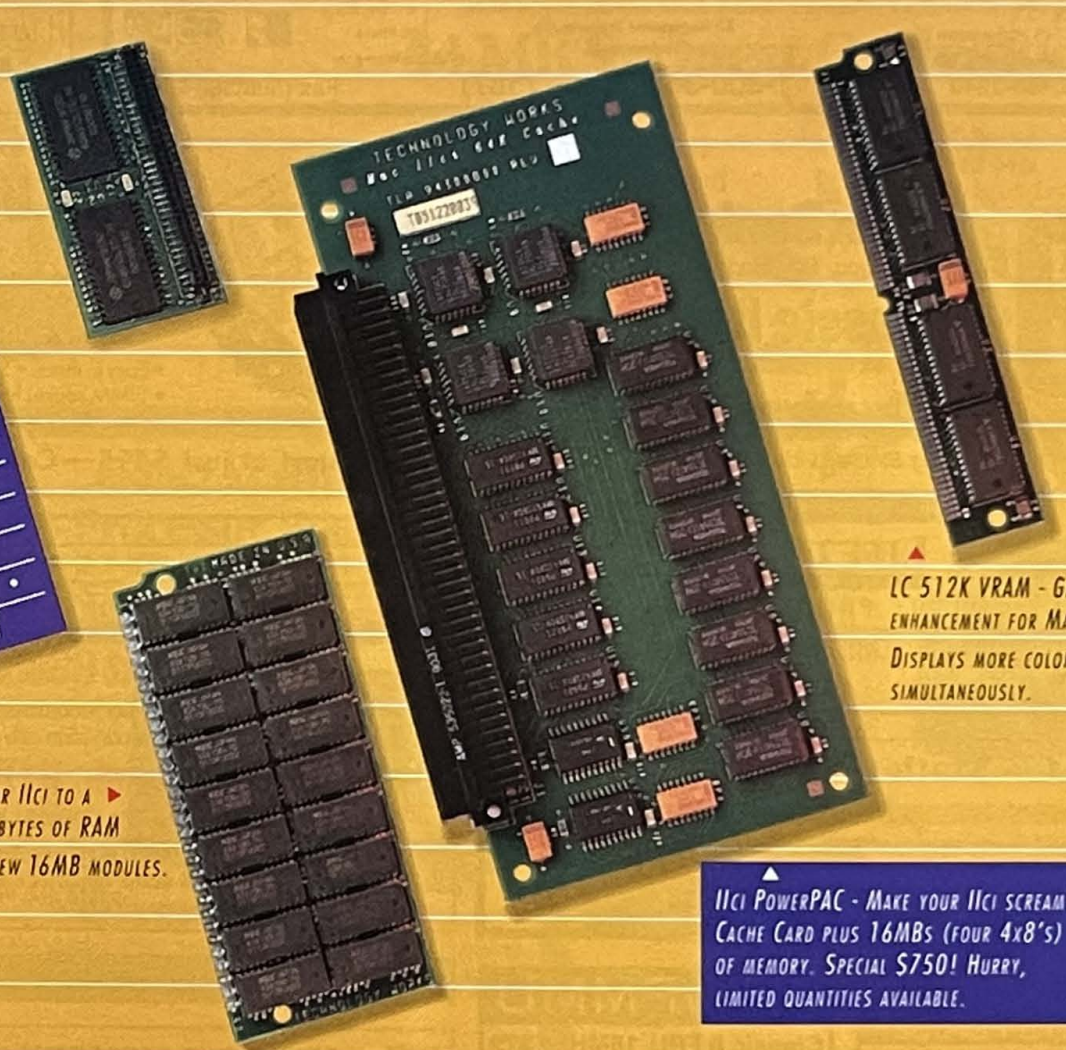

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INDEX

100 Memory Upgrades
Boards
SIMMs

102 Software
Business Management
Desktop Publishing
Education
Finance
General
Graphics
Hypercard
Investment

102 Hardware
Bar Coding
Computer Systems
General
Peripherals

109 Special Services
General
Graphics
Programming
Rental/Leasing
Toner Recharging
Training
Used Equipment

111 Accessories
112 CD ROM
Connectivity
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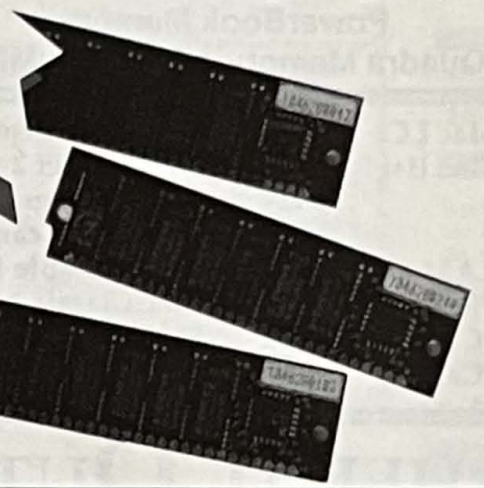

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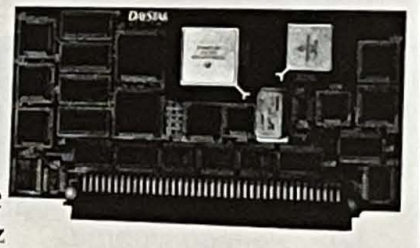

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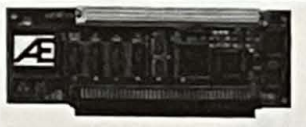

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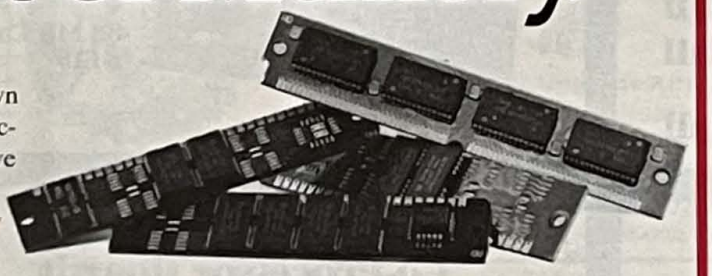

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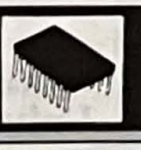

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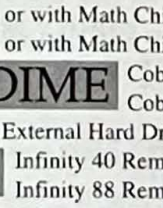

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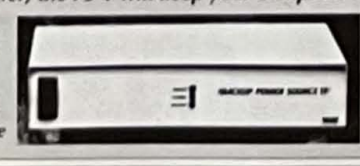

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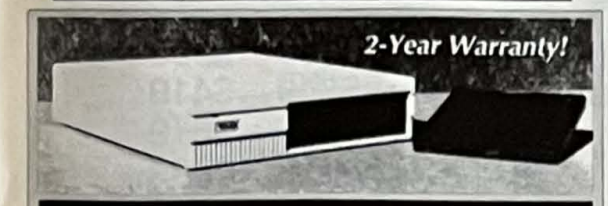

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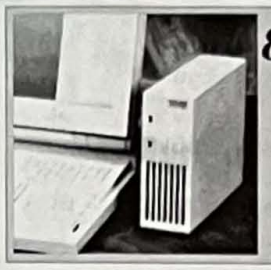

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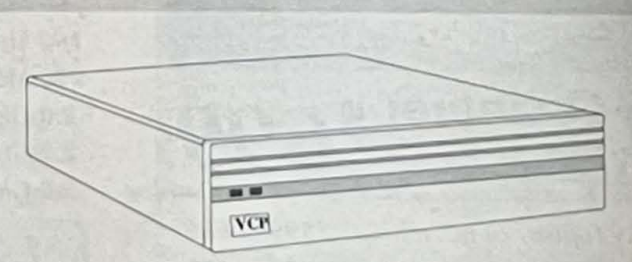

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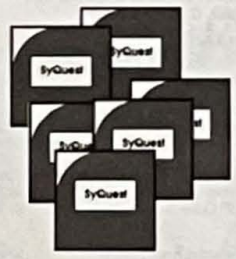

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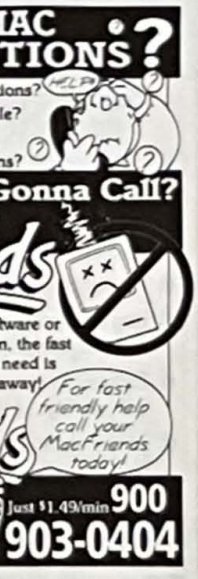
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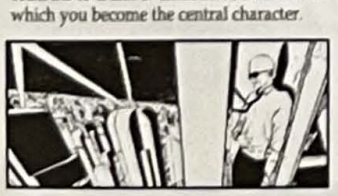

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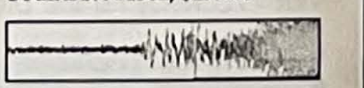

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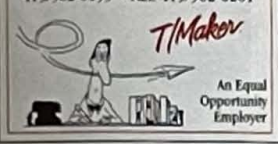

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BUSINESS WATCH

- Industry news
- Market trends

MacWEEK index
THIRD-QUARTER SOFTWARE SALES

The Software Publishers Association released the following results for third-quarter 1991 sales of Macintosh, DOS and Windows-based applications.

Macintosh retail software sales (in millions of dollars)

	Q3 1990	Q3 1991	CHANGE
Education	$3.0	$11.0	272.9%
Spreadsheets	$15.8	$37.3	136.6%
Integrated	$5.1	$8.4	64.5%
Entertainment	$4.4	$7.0	60.3%
Databases	$7.5	$11.2	50.5%
Graphics	$40.7	$55.1	35.2%
Word processors	$25.1	$31.7	26.7%
Other productivity	$33.4	$41.1	23.0%
Languages/tools	$3.1	$3.2	4.5%
Desktop publishing	$18.4	$11.4	-37.9%
Total*	$156.4	$217.4	39.0%

Windows, MS-DOS retail software sales (in millions of dollars)

	Q3 1990	Q3 1991	CHANGE
Spreadsheets	$149.1	$229.2	53.7%
Other productivity	$210.5	$283.8	34.8%
Entertainment	$66.8	$87.0	30.3%
Databases	$78.8	$100.4	27.5%
Education	$21.2	$25.4	20.0%
Languages/tools	$33.6	$37.2	10.7%
Word processors	$205.7	$220.7	7.3%
Integrated	$29.1	$30.6	5.0%
Graphics	$117.7	$123.0	4.5%
Desktop publishing	$28.2	$22.6	-19.8%
Total*	$940.6	$1,157.9	23.1%

*Totals may be slightly affected by rounding.

Staffers give Apple mixed marks

Execs acknowledge morale problems

By Dartanyan L. Brown

Cupertino, Calif. — The first internal feedback poll of Apple employees since 1,500 workers were laid off last summer shows that Apple's staff is satisfied with working conditions but doesn't believe management has workers' best interests at heart.

The results of the Apple91 Pulse Survey were revealed in a memo sent from Apple CEO John Sculley and President Michael H. Spindler to all employees last month.

The memo described the survey, which was conducted by an independent research firm, as "a true representation of the feelings of employees worldwide."

One-third of Apple's 14,000 employees were invited to participate in the poll. According to the memo, 60 percent of those responded to the survey.

Apple generally received high marks from its workers for articulating clear business goals, delivering superior products and creating a favorable working environment this year.

The memo noted that respondents believe Apple made progress in meeting the needs of education and home users but has taken a step backward in its support of business and government customers.

Workers rate Apple management 1991

Upside

- Outlined a clear business direction.
- Improved outreach to education, home markets.
- Supplied better tools for employees.
- Confidence in Apple's products and people grew.

Downside

- Decline in overall employee satisfaction.
- Company goals furthered at workers' expense.
- Decisions made at wrong level.
- No improvement in business and government support.
- Lack of information about advancement opportunities.

The survey showed, Sculley and Spindler acknowledged, that "overall satisfaction in working for Apple has declined significantly" during the past year. "You believe," they wrote, "that although we've made great strides in furthering our business goals, we've done this at your expense."

One longtime Apple employee said: "Sometimes, I think that nobody above middle management ever hears what it is we're saying. It's one thing to have all this great hardware, but I wonder if Sculley really knows how tough it is for us to

See Survey, Page 117

Apple misses out on giant Defense Dept. contract bid

By Mitch Ratcliffe

Washington — A huge Department of Defense contract eluded Apple's grasp last month, but the company quickly filed a formal protest over the decision.

Desktop IV, an $800 million contract administered by the Air Force, went to Austin, Texas-based CompuAdd Corp. and Sysorex Information Systems Inc., a systems integrator from Falls Church, Va. The procurement calls for the purchase of more than 300,000 computers during the next three years.

In a protest filed with the General Services Board of Contract Appeals, Apple argued that the Air Force had improperly determined that Apple's proposals were deficient; illegally ignored the evaluation and award criteria; failed to achieve full and open competition by not conducting pre-award discussions with all vendors; and did not treat all bidders equally. The contract, announced last July, was awarded after the fastest Defense Department procurement process in history.

A spokesman for the Apple Federal Systems Group in Reston, Va., refused to comment on the specifics of the appeal, except to say that Desktop IV is "a large and significant procurement, one that we think we could win."

The GSBCA can decide appeals within 45 days but can extend that period.

CompuAdd estimates its first-year sales of IBM-compatible systems and peripherals will exceed $398 million.

See Desktop IV, Page 117

No more Solutions after 1991

By Henry Norr

Williston, Vt. — Solutions Inc., a longtime developer of communications and utility software for the Mac, will cease active operations on Dec. 31.

The company has put its retail products, including the BackFAX fax-modem software package, the SuperGlue II print-to-disk driver, the SmartScrap & The Clipper graphics utility, and a series of electronic-mail gateways up for sale to other publishers.

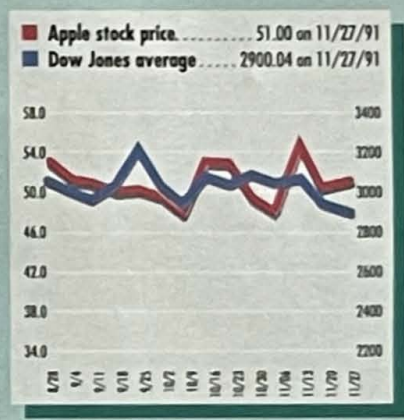
Tom Evslin, Solutions founder and chairman, will move to Vancouver, British Columbia, to become site manager at Microsoft Corp.'s Workgroup Canada. The group, established earlier this year when Microsoft acquired Consumers Software Inc. and its Network Courier electronic-mail package, is

See Solutions, next page

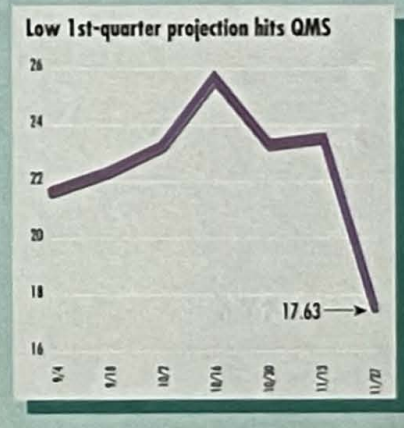
StockWatch

	11.27.91 CLOSE	WEEKLY % CHANGE
Apple	51.00	-5.77
SOFTWARE DEVELOPERS		
Adobe	48.50	-13.78
Aldus	35.75	-5.30
Caere	13.00	-21.21
CE Software	8.38	-14.10
Microsoft	95.25	-5.69
Symantec	29.50	-4.84
PERIPHERALS VENDORS		
CMS	4.00	-8.57
HP	48.75	-2.26
Mass Micro	0.59	-26.94
QMS	17.63	-25.40
Radius	7.50	-26.83
RasterOps	10.75	-38.57
Sigma	6.00	-7.69
STORAGE		
Conner	13.00	-14.05
Maxtor	4.88	-13.33
Quantum	9.25	-19.57
Seagate	8.75	-12.50
INDUSTRY INDICATORS		
Businessland	0.94	0.00
DEC	63.63	1.39
IBM	94.38	-4.67
Motorola	59.88	-6.08
Sun	24.13	-7.66
Dow Jones	2900.04	-5.39

Compiled by Nordby International Inc.



Low 1st-quarter projection hits QMS



Nothing cuts deeper than a financial analyst's knife, at least that's probably how stockholders in QMS Inc. felt last week when Wall Street lowered the company's first-quarter earnings projections.

As a result, QMS' stock took a 25 percent plunge to close Nov. 27 at $17.63 a share. This, despite the fact that for its fourth quarter, QMS' per share earnings were up 8 cents from last year.

Solutions

From previous page

now responsible for the development of Microsoft Mail for PC Networks.

In recent years, Solutions, founded more than 20 years ago as a mainframe programming and training house, has devoted much of its energy to development of gateways for Microsoft Mail and other E-mail vendors.

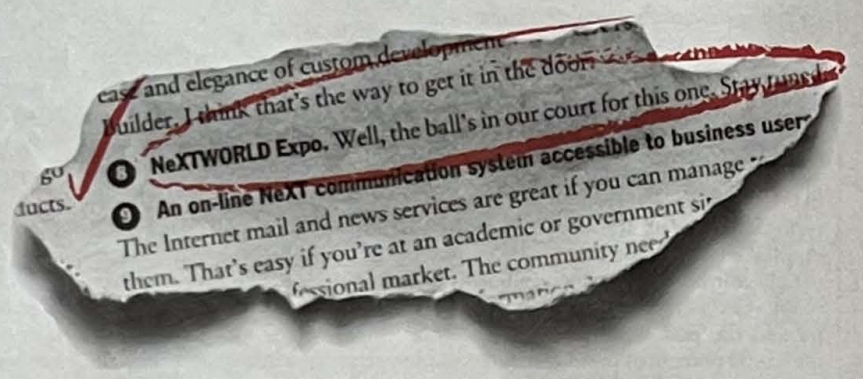
"This is an era of rapid consolidation in the mail and gateway area," Evslin said. "Solutions was the wrong size to survive — we were too small to acquire others and we were getting pushed toward the periphery."

Of the company's 20 employees, 12 will remain until the end of the year, according to Evslin. Thereafter, he said, Solutions will remain in existence to collect royalties on products it has licensed to other developers, including the Glue driver that ships with Apple's AppleLink telecommunications program.

In addition, several programmers currently on the Solutions staff are likely to stay on a contract basis to complete projects the company is working on for other publishers. Solutions programmers recently finished a System 7.0-compatibility upgrade of the software used for GraphicsLink, The Associated Press' graphics-distribution service.

Ironically, Solutions just finished beta-testing BackFAX 2.0, a new System 7-savvy version of the software that introduced background operations to the Mac fax-modem market. Evslin said he expects the program will be sold to either a modem manufacturer or another software publisher. □

IN THE FALL 1991 ISSUE, NeXTWORLD MAGAZINE PRINTED ITS TEN MOST WANTED LIST.


8 NeXTWORLD Expo. Well, the ball's in our court for this one.
9 An on-line NeXT communication system accessible to business user
The Internet mail and news services are great if you can manage
them. That's easy if you're at an academic or government

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Business BRIEFS

SyQuest plans public offering

Fremont, Calif. — SyQuest Technology Inc., a leading manufacturer of removable-cartridge drives for the Mac, filed a registration statement with the Securities and Exchange Commission for an initial public offering.

While the IPO statement was filed last month, it will not become effective until approved by the SEC. A spokesman said SyQuest has no idea when that might occur.

The IPO will make available 2.3 million shares, at somewhere between $8 and $10 per share, for purchase by the public. SyQuest will sell 1.5 million of those shares, while 800,000 shares will be sold by current stockholders.

The 9-year-old company recently introduced a new series of 2.5-inch drives for DOS laptops.

CE Software results up for 1991

West Des Moines, Iowa — CE Software Holdings Inc. has posted higher revenues and earnings for the fiscal fourth quarter and its 1991 fiscal year, which ended Sept. 30.

Revenues for the year were up 36 percent to $8.64 million, and net income rose to $1.44 million from the $1.39 million the company made in 1990. As a result of the increase in outstanding shares, per share earnings for the year were 30 cents, down slightly from the 36 cents per share the company earned in 1990.

NeXT ad targets Apple-IBM

Redwood City, Calif. — NeXT Computer Inc. took careful aim at the Apple-IBM Corp. alliance in an advertising campaign that is running in The Wall Street Journal through the end of the year.

The NeXT ad proclaims that the joint venture will, indeed, deliver powerful software sometime in the next three to five years. Interested customers, the ad says, can get a free demonstration of that power by attending a NeXT seminar and see the object-oriented NeXTstep software running on the company's workstations.

"This ad campaign is the first time that NeXT has really highlighted NeXTstep for custom application development in corporations," said a NeXT spokeswoman.

Previously, NeXT's business market focused on applications, not development, she said.

Desktop IV

From Page 115

Sysorex, a subsidiary of Mountain View, Calif.-based Sysorex International, will bill about $268 million for systems, consulting and support during the life of the contract.

Sources said that senior Air Force officials told Apple its bid was a leading contender to win the contract as late as October (see MacWEEK, Oct. 1).

"[Apple] asked us for copies of our product with a note saying it would be returned in the unlikely event that Apple lost the bidding," said one subcontractor, who would have provided part of the Apple Defense "office automation" package.

A spokeswoman for Apple Federal Systems Group, Apple's federal sales arm, said the company is reviewing the Air Force's comments on the Apple bid. "Obviously, we're really disappointed," she said. "But this will in no way diminish our focus on the federal market."

If Apple had won Desktop IV, sources said it would have broken a prejudice within federal agencies that stereotypes the Mac as a graphics workstation.

Apple's A/UX Unix operating system is one of the few Unix implementations that is certified under the federal government's open systems program, POSIX.

Sources close to the bid committee said the greatest obstacle for Apple was the contract's stringent requirement for compatibility with earlier Defense Department computer purchases. □

Survey

From Page 115

deliver support for all this stuff since we've had no support staff since the layoffs."

Intense pride in the company, coupled with feelings of insecurity about management's commitment to employee advancement, also showed in survey responses.

"The memo said that [management] finds our negative reactions unacceptable and that they want to communicate their understanding of our problems," said one survey respondent. "I'm just waiting to find out how they intend to do this."

But, the respondent added, the real tragedy is that Apple employees don't realize how good they've got it and how great the future looks for the company compared with vendors such as IBM Corp. and Compaq Computing Corp.

"There will be finger pointing until the problems are solved," said another respondent. "It's no longer Camelot here."

Officials at Apple refused to comment on the survey. □

Desktop IV loss hits Apple Federal Systems right where it hurts

The loss of the $800 million Desktop IV bid has left the Apple Federal Systems Group reeling, according to sources.

"Apple Federal really invested in the Desktop IV contract," a source said. "They brought in people, some of them former Air Force, and it looks like a lot of careers were riding on the contract."

AFSG has garnered a larger share of federal computing purchases for Apple, doubling the company's sales between 1988 and 1990 (see MacWEEK, April 10, 1990). By stressing connectivity, AFSG gained acceptance for the Mac from the agency that oversees government spending, the General Services Administration.

Nevertheless, there is more than an inch of paperwork that needs to be filed with the GSA to procure a Mac, according to federal users, which has limited the Mac's GSA sales.

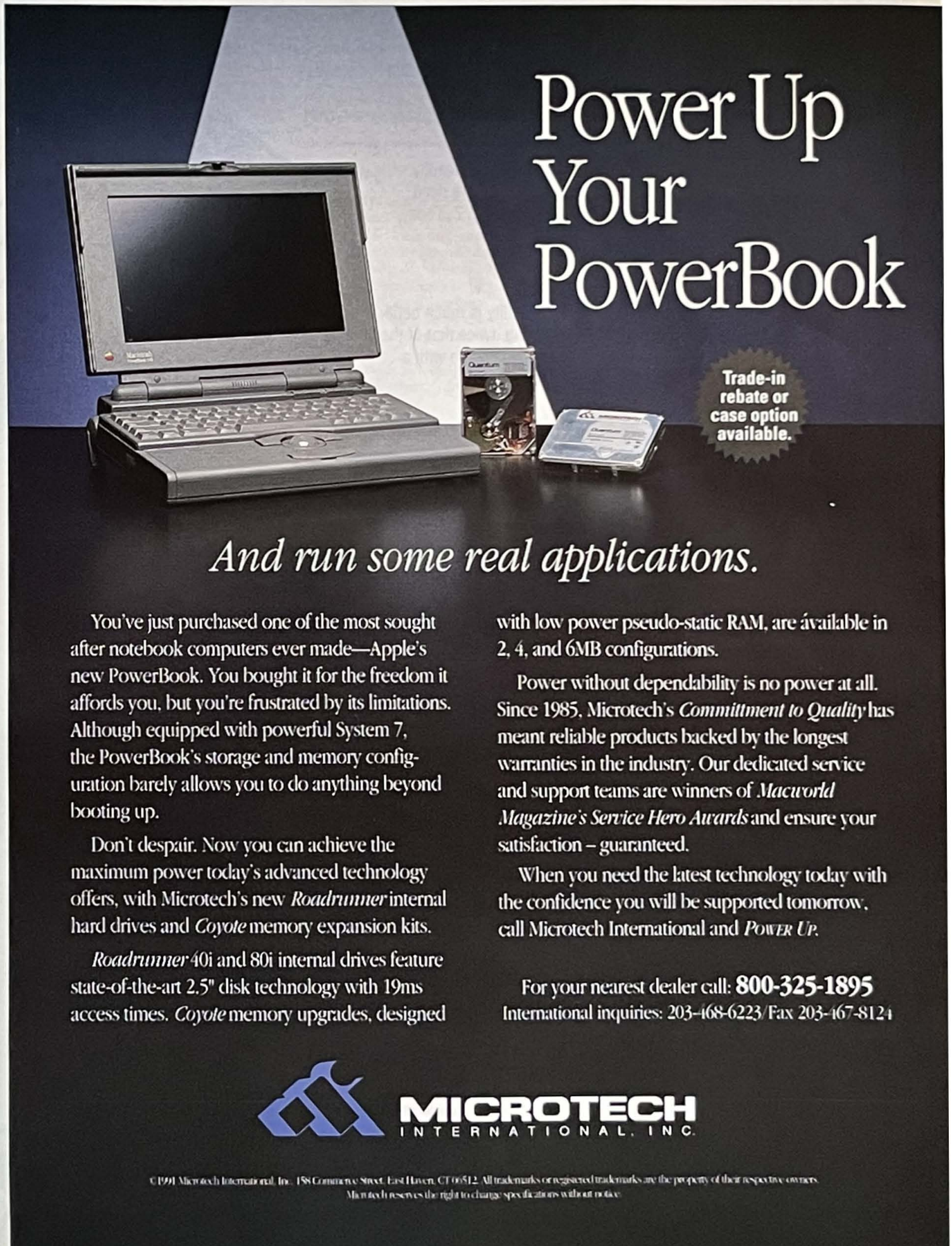
Apple's federal marketplace was redistributed last year, making AFSG dependent on high-end government contracts such as Desktop IV. AFSG's sales quotas took a hit this spring, when credit for up to $125 million in sales by Apple's federal reseller, Falcon Microsystems Inc., was shifted from AFSG to Apple USA.

That left AFSG with only the high-end government market, an aggressive environment where the Mac has not done well because most decisions are made on price. That market has totaled only $20 million annually for AFSG.

"AFSG was relieved of up to 90 percent of its revenue base," a source said. "Now it has to show real growth in the remaining segment."

But Mac users in federal agencies said AFSG has failed to create a commitment to the Macintosh.

"Apple Federal was originally intended to support government users who were using their own computers to help sell management on the Mac. They've never done that," said Cliff Bernath, president of the Pentagon Mac Users Group. — *By Stuart Silverstone and Mitch Ratcliffe*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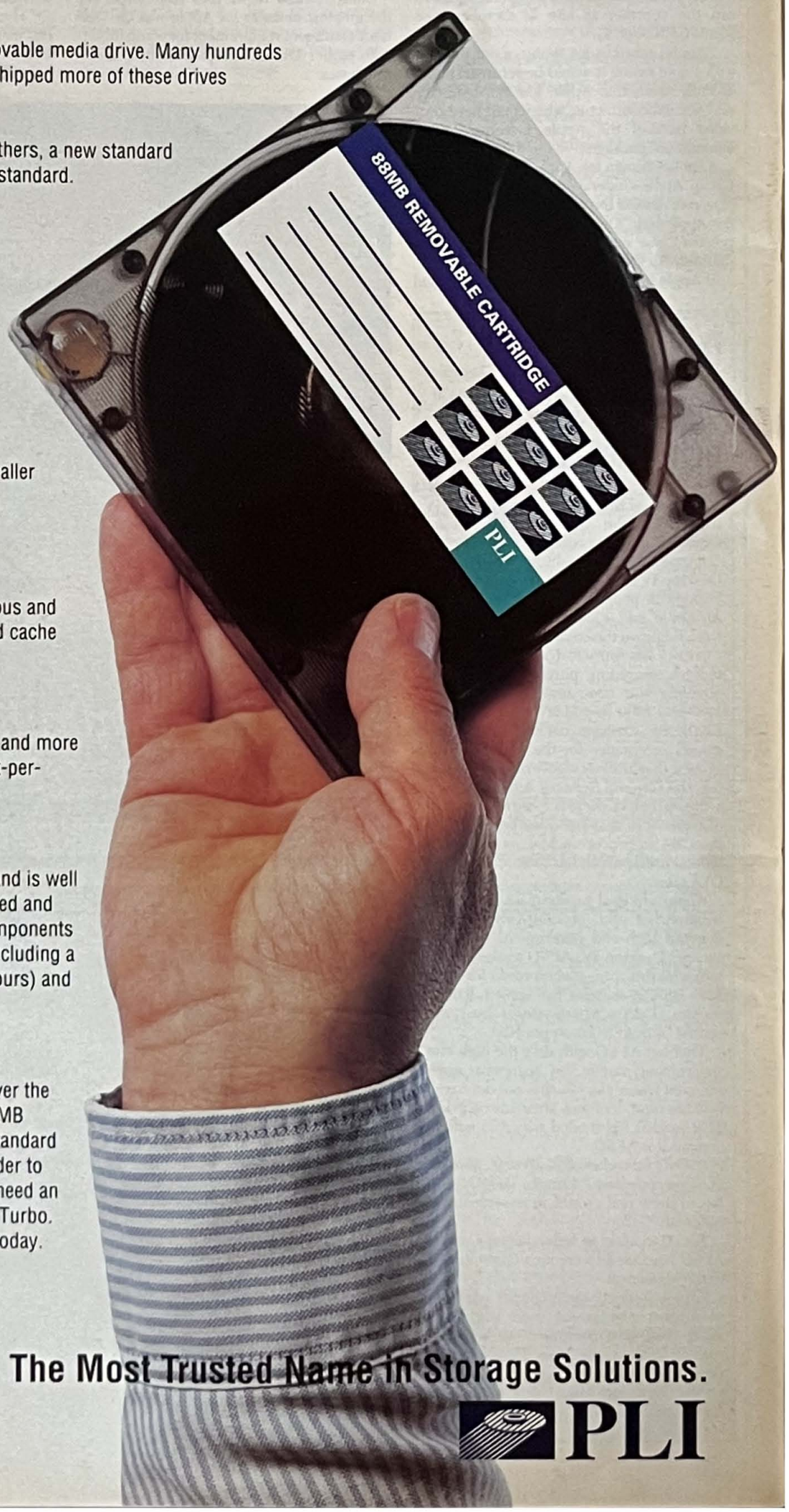

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Microsoft

From Page 1

tant, we want to disclose them on as many of our new technologies as possible as early as possible," said Loevner. "But Microsoft's applications division doesn't just do applications, and where they are working on equivalent technologies for Windows, we are more careful about disclosure."

"We learned about QuickTime two days before the announcement at the developers conference last spring," Maples said. "There were other developers who had applications up and running using QuickTime at that announcement. Wherever Apple thinks it has a competitive advantage over Windows, it keeps it from us."

More recently, Maples said, his company hasn't had access to Open Collaboration Environment (OCE), Apple's suite of workgroup computing services, even though Microsoft wants to make Mac groupware a major development priority for 1992. But without OCE, there is no way for Microsoft to start that work, so the company must, by necessity, put its collaborative development efforts into Windows, he said.

"OCE has got to be one of the most aggravating examples of Apple selectively holding back information," Maples said. "By and large we have never been disclosed on anything about mail on the Mac. And we know some of our competitors have seen OCE and are contributing to the development effort."

The reason Apple has not given Microsoft equal access to OCE, according to Loevner, is concern that the Windows equivalent to OCE (see related story, below) might benefit from an early look at Apple's technology.

"What's system software and what's applications is very blurry at Microsoft," Loevner said. "The applications group does DDE, they do OLE, they do collaborative services; if that's not system software, then I'm unclear as to what is."

▸ **Marketing support.** Of much greater concern to Microsoft than problems with development support is marketing support, according to Maples. Apple has historically been fickle in its co-marketing with third-party developers, but in recent months its treatment of Microsoft has been downright "schizophrenic," he said.

For instance, at the Comdex/Fall '91 debut of Apple's new Macs, a major theme was how well Macs work with PCs. Yet Microsoft, which has the single biggest suite of cross-platform applications for the Mac, was not mentioned once, while companies such as Lotus Development Corp., which has yet to ship its 1-2-3 for the Mac, was a major part of the introduction.

Apple also has taken Lotus on sales calls to many of its major corporate accounts, something Maples finds baffling. "I'd like them to show me one Mac they've sold because of Lotus," he said.

"The reason we've done such aggressive marketing with Lotus is that the Lotus name really opens doors for us in corporate accounts," Loevner said.

"It's like we're being punished," Maples said. "The guys who started with Apple and stayed with Apple don't get rewarded for their loyalty. But somebody who has had no commitment to the Mac platform and now only has made a small one is Apple's sweetheart."

While information flow between the two companies has affected some of Microsoft's development, Maples said that as long as his company continues to make money off the Mac, it will continue to develop for the Mac.

But actions like supporting one major developer over another, just to lower Microsoft's Mac market share, could eventually undermine the company's Macintosh commitment, he said.

"Wars are started over little things," Maples said. "But it's in neither of our best interests to start that conflict. I try to make sure the little things don't escalate and make this into a shooting war." □

Microsoft raises framework for groupware

By Mitch Ratcliffe

Redmond, Wash. — A transport-independent "messaging infrastructure" will grease the wheels of Microsoft Corp.'s collaborative operating system and applications strategies, according to the company.

Microsoft, along with Apple and other operating system vendors, is blazing a trail that will transform the desktop into a window on network services (see MacWEEK, Oct. 22). Eventually, users will be able to read and write to files on any computer on the network, share schedules or conference together by clicking on a local icon.

The heart of Microsoft's implementation of collaborative services will be a platform- and transport-independent application programming interface (API) called Messaging API, or MAPI, and an X.400-based directory.

According to Laura Jennings, group product manager in Microsoft's Workgroup Application Division, MAPI "makes the messaging layer a platform for applications development because customers can plug their own front ends or back ends into it."

Microsoft is encouraging developers to write from many platforms to MAPI, which is considered vital to successful groupware applications.

"To play as a workgroup vendor you have to support all system vendors," Jennings said.

For instance, a Windows application could hook into MAPI to send updated versions of a document to other users. Microsoft's Dynamic Data Exchange (DDE) or, in the case of a Mac application, Apple events, could automate collaborative functions.

MAPI directory services will play a big part in tracking users and collaborative projects.

Jennings said that Microsoft hopes to eventually integrate directory services into the Windows OS. This would allow an individual computer's file manager to take over the network message storing and directory services now provided by network OS, effectively bringing all the information on the network to a user's desktop.

By writing to MAPI, Jennings said, cross-platform developers will be able to use network-wide directory services. Last month, Microsoft announced Mail 3.0 for PC Networks, which provides similar functionality in its global directory synchronization (see MacWEEK, Nov. 19).

Jennings said two groupware applications for Windows that use MAPI will ship in early 1992. She added that Mac versions of one or both will ship by the end of 1992.

Microsoft's collaborative features direct a marketing broadside at Apple's Open Collaboration Environment (OCE) and future Apple-IBM Corp. operating systems. However, Jennings said, the competing OS companies are better-equipped to deliver groupware capabilities. She said the Open Messaging Interface (OMI) API, announced recently by Lotus Development Corp. and endorsed by Apple and IBM, is an inefficient method for collaborative messaging.

"Lotus is duplicating the operating system with OMI," Jennings said. "The only companies that can promise to leverage the OS are OS companies." □

Applied Engineering adds FPU to Classic II

Carrollton, Texas — Applied Engineering, a division of AE Research Corp., announced this week a floating-point coprocessor for the Mac Classic II.

FastMath Classic II sports the same 16-MHz Motorola 68882 chip, $199 price and five-year warranty as the FastMath LC the company introduced last year. However, it adds an installation tool kit required to open up the Classic II case.

Quantity discounts are available.

AE Research Corp. is at P.O. Box 5100, Carrollton, Texas 75011. Phone (214) 241-6060 or (800) 554-6227; fax (214) 484-1365. □

Symantec

From Page 1

ties quickly became a best seller.

Symantec earlier this year acquired the SUM code, including several unreleased features, from its original developer, Micro Analyst Inc. of Austin, Texas. Among the SUM technologies to be integrated into the new Norton package are routines for dealing with SCSI-driver damage so severe that the current Norton release can't see the drive.

SUM itself will disappear from the Symantec line when Norton 2.0 is released, sources said.

The new backup module, being developed by an outside contractor, will work with all Finder-mountable media and will support compression, scheduling and background operations. The company reportedly has abandoned plans to include encryption, password protection and tape support.

Directory Assistance, the dialog box-enhancement utility shipped with the Norton program, has been rewritten from the ground up. Unlike the current release, the new version will be compatible with System 7. Designed to stand up to competitors such as SuperBoomerang (part of Now Software Inc.'s Now utilities), the new extension will incorporate a faster Find function and simplified access to frequently used files and folders.

Speed Disk, the Norton Utilities' disk-optimization program, will be upgraded to defragment files on the user's start-up disk, sources said.

A brand-new feature in Version 2.0 will be WipeInfo, a module that provides secure erasing of data from a hard disk. It will be available to other applications via Apple events, sources said.

Norton 2.0 originally was scheduled for release last June but has been postponed repeatedly. Symantec recently said it hoped to show the product at next month's Macworld Expo and ship it in March, but that schedule is now under review, sources said. The program has not yet entered beta testing. Pricing has not been set; the current version, 1.1, lists for $129.

The exact feature set reportedly also remains under debate. Among the possibilities, according to sources, are an UnDelete desk accessory and another DA, called Secure, that provides on-the-fly partitioning, encryption and compression.

Symantec could soon face a stiff new challenge in the data-recovery field from Central Point Software Inc., which reportedly is developing a much-enhanced successor to its MacTools Deluxe. □

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Sapphire

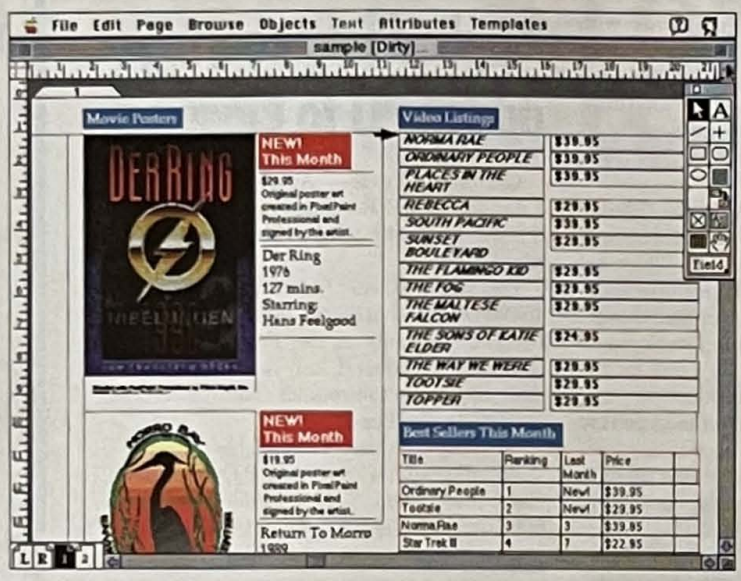
From Page 1

grams, such as xdata from Westbrook, Conn.-based Em Software Inc., an XTension for QuarkXPress (see MacWEEK, April 16).

Sapphire works with mainframe databases, such as DB2; SQL servers, such as Oracle and Sybase; IBM PC database programs, such as dBASE, FoxBASE and Paradox; and Mac database programs, such as 4th Dimension, Omnis and FileMaker Pro. It uses query languages and system-level services, such as Microsoft Corp.'s Dynamic Data Exchange (DDE), Apple's Data Access Language (DAL) and System 7's Apple events.

Roger Helmick, manager of marketing operations at Rockwell International's Digital Information Division in Newport Beach, Calif., said his department has seven programmers creating database reports for more than 300 users.

"This program is exactly what we need, because we make mountains of reports," said Helmick, who viewed a prototype demonstration of Sapphire. "We have a huge database on an IBM mainframe that contains sales and marketing information, order-entry information and production information."



Sapphire will have desktop publishing features such as drawing tools, adjustable line screens and color separations. The program's Field tool lets users link their layouts to remote databases.

Helmick said his programmers will set up templates in Sapphire so users in Rockwell's sales, production and accounting departments can create their own database reports.

"Every time I make it easier for people to get reports, it seems like I'm going to put myself out of a job," Helmick said. "But for some reason, that never seems to happen."

Barcot said he plans to use Sapphire for a neonatology-tracking database he is designing for hospitals. He said the program will let him sell his databases to more sites, because users will become more self-sufficient.

CoRelation Inc. is at 362 Timberhead Lane, Foster City, Calif. 94404. Phone (415) 571-9474; fax (415) 349-0497. □

Tech

From Page 1

paying, even out of my own salary."

TechStep is $795 to qualified organizations, primarily resellers. Resellers get an added benefit in that Apple will reimburse the cost of the system under Apple Fund, a special dealer program. Dealers may not resell TechStep to customers, Apple said.

"Our first concern is to make sure we have enough TechSteps for all our authorized service providers," said Jeri Crittenden, manager of marketing communications at Apple. "This is not a product we can sell off the shelf. We have to know who our users are and whether they are trained in diagnostics, troubleshooting and repair follow-up."

The TechStep will perform diagnostics on all Apple-brand internal components and external hard drives. It will ship with two ROM packs of diagnostic tests; the CPU ROM pack currently will examine the Mac II, IIx, IIcx, SE, SE/30 and Classic; and the SCSI HD Tests ROM Pack will test video cards, floppy disks and hard disks. A detachable Port Pack at the rear of the device connects to every Mac interface, including a stereo port.

"Once users purchase TechStep, which includes the case and ROM packs, then they just need to upgrade individual ROM packs," said Greg Hardy, TechStep product manager. "Upgrades may be on a subscription basis or priced individually. We still have to decide that." Hardy said Apple is reviewing a ROM pack that will test LaserWriters.

With TechStep, users can quickly test systems that will not boot, eliminating the need to couple dead systems with working units. It can perform loop tests to catch intermittent errors; test power supplies, batteries and internal SCSI termination; and even pinpoint failed SIMMs (single in-line memory modules). Other tests include ROM checksum, bad-block scans and a variety of seek exercises. TechStep will print out a report of tests and failed components.

Despite its limited availability, TechStep has been shown to several corporate organizations. In December 1990, for example, Apple described the device to members of Managing Apple Computers in Information Systems (MacIS).

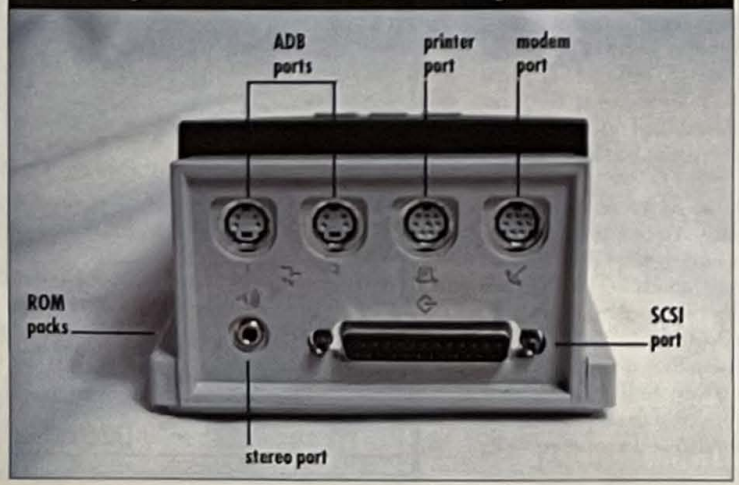
Andrew S. Block, senior data systems specialist at Lockheed Missiles & Space Co. in Sunnyvale, Calif., said he saw a demonstration of the product at a recent meeting of corporate support coordinators. "Someone bent a SIMM so it wouldn't seat properly. TechStep not only said what the problem was but exactly which SIMM it was. That was impressive."

While Apple has shown TechStep outside its authorized support-provider base, it has not said if corporate customers will be able to buy the product. Sources indicate Apple eventually will sell TechStep to qualified corporate sites.

"Apple had a lot of problems freezing the ROM packs and is extremely concerned that all problems are worked out," said a source familiar with the product. "As long as Apple has direct communication with the people using the product, it can manage the problem. But if Apple starts selling TechStep to DSSOs, it loses that direct communication. Apple probably will offer it to a limited number of corporate users, but only after Apple establishes a really high level of technical support," the source said.

"There's enough craziness in computers that I'm not sure some of it isn't voodoo," Mackes said. "TechStep would give me a warm fuzzy feeling that the repair actually works." □

TechStep's Port Pack hooks to any Mac interface



Apple, Claris retract XTND 2.0; developers miffed at flip-flop

By Raines Cohen and Carolyn Said

Mountain View, Calif. — Claris Corp. will no longer be extending its file translation technology to other developers.

The company originally billed XTND, an architecture for developers to create file translators, as a potential industry standard that it would share freely with other companies.

Since licensing XTND 1.3 to Apple in September (see MacWEEK, Oct. 1), Claris has continued development on file translation capabilities but plans to keep them proprietary. Several developers said last week they were disappointed to hear that Apple will not be distributing XTND 2.0, a new version of the system extension developed by Claris. Companies said they gave Claris feedback to help it create the new technology, which is more powerful and customizable than the current generation of XTND, under the assumption that they would be able to use it in their products.

"It's unclear what the ultimate effect on us will be," said Conall Ryan, CEO of Cambridge, Mass.-based ON Technology Inc., an early XTND adopter that uses it in two products, Instant Update and On Location. "We're getting incredibly mixed signals from Apple and Claris."

Developers said they were looking forward to XTND 2.0 because it uses a more generalized format than current versions, which are limited to the formatting capabilities of MacWrite II. "It seems baffling," said Royal P. Farros, chairman of Mountain View, Calif.-based T/Maker Co. "Apple had the opportunity to do something really terrific ... by releasing a more generalized translation technology. Everybody's filter [development] is being held up."

Claris attributed some of the confusion to the rapid shifts it went through, being spun out and then in to Apple. "The mission of Claris is better-defined now. There should be no more confusion about us doing 'exampleware,' " said Steve Ruddock, manager of public relations at Claris.

Apple said it is working on new translation technologies that go beyond XTND, for inclusion in future system software. "Apple is certainly investigating lots of issues related to translation," said Gary Little, XTND product manager at Apple. "Ideally, you won't lose the ability to use the translators you have today."

Little said developers were more concerned about the lack of licensable translators for the current XTND, but several companies, including Phoenix, Ariz.-based MasterSoft Inc., Trumbull, Conn.-based DataViz Corp. and San Diego-based Beagle Bros Inc., now offer translators for a wide range of formats. □

Docking

From Page 1

bus connector compatible with at least two planned devices:

- **The TravelBar** will contain a floppy drive and a port allowing users to connect Apple Desktop Bus devices such as external keyboards, pointing devices and modems. The slim device will be designed for use away from users' primary desks.
- **The DeskBar,** designed for office use, will be about as large as a Mac IIsi, but it won't be able to function as a computer by itself. It will work only when connected to a PowerBook, providing network connections, expansion slots, video support, floppy drives, I/O functions and a floating-point unit slot.

The desktop-docking station will include built-in Ethernet connections and two NuBus slots. It will support a wide range of monitors, including Apple's forthcoming 16-inch color monitor, with up to 16-bit color, depending on monitor size.

The current crop of PowerBooks already supports some docking functions impossible with most IBM PC-compatible notebooks. The 100, for example, can connect to other Macs using a special SCSI cable; all three current PowerBooks have AppleTalk ports, so they can share files with desktop machines under System 7.

Despite the practical advantages docking can offer, other manufacturers have been burned by trying to sell docking stations for their portable systems. "We've managed to lose more money in docking stations than anything else," said D. Bruce Walter, president of Fremont, Calif.-based notebook maker GRiD Systems Corp., speaking at October's Comdex/Fall '91 show in Las Vegas. "If you talk to computer purchasers, to a person they believe that docking stations are important. The only problem is that nobody buys them. The few that do — just 10 percent of the market — is really not reasonable [enough] to justify the effort. Only some customers require it."

Apple may agree. "Docking stations are costly," said Randy Battat, vice president for portable computing at Apple. "If you're using one merely to get expandability, you can do that with our notebooks today. If you think about how you would like to use a desktop computer in conjunction with a notebook computer, what's more important are products that can solve other problems like data reconciliation." □

Products mentioned in this issue

Accounting

Wyoming Software	Business Sense 1.5	15

Computer-Aided Design

Prentice Hall Publishing	Introduction to VersaCAD Macintosh	17
Virtus	Virtus Walkthrough	36

Computers & System Software

Apple	Apple TechStep tester	1
Apple	Mac PowerBooks	36
Apple	Mac PowerBook	1
Apple	Mac Quadras	72
Apple	System 7	122
Apple	Open Collaboration Environment	1
Apple	Travel Bar	1
Apple	Desk Bar	1
GRiD	Docking notebooks	1
Lotus Developement	Open Messaging Interface API	119
Microsoft	Windows	1, 119
Microsoft	Messaging API (MAPI)	119

Databases

Blyth	DAL Developer's Took Kit	22
Blyth	Omnis Connect for DAL	22
Business Network	4D Balloon Help	14
Fairfield Software	Clear Access for Windows	24
Microsoft	Open Database Connectivity (ODBC)	22
Symantec	Q&A Mac	122

Desktop Publishing

Bob Gill	Forget all the rules about graphic design including the ones in this book.	49
CoRelation	Sapphire	1
David Collier	Collier's Rules for Desktop Design and Typography	49
Kramer & Lovaas	Desktop Publishing Success	49
Manhatten Graphics	Ready,Set,Go!	4
Roger Black	Desktop Design Primer	49
Roger Parker	Newsletters from the Desktop	49

Display Systems

Envisio	NDA video cards	36
Hardware That Fits	RealTech Trinitron color systems	6
Mitsubishi America	Diamond series	13
Optical Coating Laboratory	MacGlare/Guard	9
Radius	PowerView	3

Graphics Software

Adobe Systems	Illustrator	44
Adobe Systems	Photoshop	44
Alias Research	Alias Sketch!	3
Altsys	Metamorphosis	44
Delta Tao	Monet	60
Letraset	ColorStudio	44
Specular Intenational	Infini-D	44

Integrated Packages

Claris	ClarisWorks	57
Microsoft	Microsoft Works	60
Symantec	GreatWorks	60

Multimedia

Claris	HyperCard	36
MacroMind-Paracomp	Director	36, 44. 54
Motion Works	ADDMotion 2.0	34, 36
Motion Works	PROMotion 2.0	34, 36
Silicon Beach	SuperCard	36
Spinnaker	PLUS 2.5	36

Networks

Allied Telesis	AT-MR112T	26
CE Software	QuickMail 2.5	57
Farallon Computing	PhoneNET StarControllers	26
Farallon Computing	StarCommand 3.0	26
Microsoft	Microsoft Mail 3.0 for PC Networks	24
Neon Software	NetMinder 2.0	22
Retix	Directory Exchange (DX)	22
Technology Works	GraceLAN Asset Manager	22
Trik Product Group	NetDistributor	65
Webster Computer	MultiPort Gateway	26

Numeric Tools

BBN Software Products	BBN/Catalyst	17
BBN Software Products	RS/Graph	17
Lotus Developement	Lotus 1-2-3 Mac	1, 122
Pillar	FYPlan	16

Organizational Tools

Advanced Management	Schedule Publisher 3.0	65
Advanced Software	INTouch	64
After Hours Software	TouchBASE	64
Chena Software	Fair Witness 1.1	15
Microsoft	Microsoft Project	18
Soft Solutions	PowerTrax 1.2	9

Presentations

Aldus	Persuasion	36
Microsoft	PowerPoint	36

Printers & Printing Software

Adobe Systems	Interchange PostScript	30
Adobe Systems	Multiple Master fonts	33, 54
Adobe Systems	PostScript Level 2	33
Mutoh America	XP-series plotters	13
Phoenix	PostScript Level 2 clone	6

Programming Tools

Apple	XTND 1.3	120
Claris	XTND 2.0	120
epsi	epsiTalk	9
Language Systems	Fortran 3.0	14
Revenaugh Group	OpenBook	18
Serius	Calendar Object	15
UserLand Software	Frontier and Software Developer's Kit	6

Reference Works & CD-ROM

CD Technology	MultiMedia HANDisc	18
NEC Technologies	CD Gallery	16

Scanners & OCR

DPI Electronic Imaging	ArtGetter	33

Scientific Tools

CAChe Scientific	CAChe Worksystem	6
National Instruments	LabVIEW 2.0	36
Scientific Visions	InterPlot 1.1	12
Spectral Innovations	IPLab extensions	14

Storage

Microtech	Roadrunner PowerBook hard disks	4

System Enhancements

Adobe Systems	Adobe Type 1 Coprocessor	33
Adobe Systems	Carousel	54
Applied Engineering	FastMath Classic II FPU	119
Microtech	PowerBook memory cards	4
Spectral Innovations	MacDSP cards	14
Storm Technology	PicturePress	30

Training

Florida Marketing Int'l	Claris MacAcademy	18

Utilities

Altsys	Fontographer 3.1	6
Alysis Software	Compatibility	72
Casady & Greene	Access Managed Environment (AME)	6
Centa Systems	Total Recall 1.5	12
Dataviz	MacLink Plus 6.0	5
Dubl-Click Software	MenuFonts 4.0	6
Fifth Generation	Suitcase II	6
Fred Hollander & Zmac	CacheOut 1.0	72
Insignia Solutions	AccessPC	122
Symantec	Norton Utilities for Mac 2.0	1, 122

Video

Abbate Video	On-Track Mac	38
Advanced Remote Tech.	ARNET line	38
Advanced Remote Tech.	Video Publisher	38
Apple	QuickTime	34, 36, 38, 54
Apple	Premiere	34
AT & T Graphics Labs	Comet	44
AT & T Graphics Labs	Studio Master	38
Avid Technology	Avid Media Composer	39
CV Technologies	Edit Master Mac	38
Data Translation	Video Quill	44
Digital F/X	Video F/X	38
Flamingo Graphics	Bola 32	44
JVC Professional Products	Video cameras & recorders	69
Lowel-Light Manufacturing	Lights	69
Macromind-Paracomp	MediaMaker	38
Macromind-Paracomp	TitleMaker	44
McQ Productions	Video Titler	44
MPEG	MPEG Standard	30
NEC Technologies	Video Sequencer	38
New Video	EyeQ system	34
Newtek	Video Toaster Workstation	44
Panasonic Communications	Video cameras, recorders & decks	69
Sony	Video cameras, recorders & decks	69
Sundance Group	Sundance	38
SuperMac Technology	VideoSpigot	34
Truevision	NuVista card	38, 44, 69
Videomedia	V-Lan	38

Product index produced by Niles & Associates Inc. Abstracts are available in MacInfo — EndNote's Monthly Guide to Macintosh Literature, on disk. For more information, write Niles & Associates Inc., 2000 Hearst St., Berkeley, Calif. 94709.

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Advertiser index

Abaton 2
Applied Engineering 75
APS 95-97
Argosy Software Inc. 74
Avatar Corp. 45
Casa Blanca Works Inc. 9
Cayman Systems 27
CE Software 68
Chinon 42
Claris Corp. 4, 5, 25
Club Mac 79-81
CSG 8
Cypress Research Corp. 76
Dantz 9
DataViz 43
Dayna Communications 23
DCA 67
DEC 28, 29
E-Machines 61
ETC 89
Express Direct 84
Farallon 124
Fifth Generation Systems 41
First Wave 75
GCC 73
GDT Softworks Inc. 76
GE RENTS 18
Harris Laboratories Inc. 75
Hewlett-Packard 10, 11, 18
ICOM Simulations 15
Integrated Device Technology 76
InterCon Systems Corp. 24
International Transware 77
IOMEGA 31
Kaetron Software Corp. 76
Kensington Microware Ltd. 123
Kent•Marsh Ltd. 74
LaCie Ltd. 12, 13
Lapis Technologies 56
Logicode Technology 74
Mac and More 88
Mac Center 85
MacDirect 91
MacLand 86
MacSciTech 74
MacTel Technology 90
MacZone 82, 83
MacWAREHOUSE 78
Mass Microsystems 55
Meyer Software 75
Microcom 155
MicroNet Technology 66
Microtech International 117
Microtek Labs 37
NEC 39
Network Resources 47
New Data 77
Newer Technologies 14
NEXT World Expo 116
ON Technology 122
Oracle Corp. 59
Outbound 8
Pinnacle Micro Inc. 62, 63
PLI 118
Printware 75
PSI Integration 49
QMS Corp. 71
Quantel 119
RasterOps 50, 51
SAS Institute 77
Sassafras Software 74
Seiko 20, 21
Seybold 46
Shiva Corp. 26
Sigma Design 70, 114
Silicon Beach Software 32, 33
Sixty Eight Thousand 77
Software & Hardware That Fits 92, 93
Synergy Software 74
Team Building Technologies 76
TechnologyWorks 19, 99
Texas Instruments 7
Third Wave 87
Total Systems 94
Trik Inc. 75
Truevision 16, 17
UMAX 53
Wholesale 54, 98
Workstation Technologies 77
XANTE Corp. 77

Mounting DOS disk distress

Thanksgiving week is now behind us, and the breathless rush to finish up the year with as much good cheer and merchandising as possible is now irrevocably gathering speed. Not that there aren't still plenty of things to be thankful for in this little corner of the world called the personal computer industry. We should all be eternally grateful, for example, that the crowd in Washington, D.C., handling the nation's business isn't in charge of Mac software development. Or that hardware development isn't in the hands of the bright lights leading the domestic automobile industry.

Things are in much better shape at Apple, although the company is not without the odd problem. For example, all their exciting allure notwithstanding, not even the newest Macs can mount a simple DOS disk on the desktop without the aid of some third-party "solution." Careful readers will remember the Knife's earlier reports from Comdex that a highly placed Apple employee alluded to an agreement with Insignia to bundle AccessPC with all Macs. Alas, such is not to be. The Knife now reports that the deal to bundle AccessPC is off, at least for the domestic market.

Quick, another dimension. As if proof were needed that Newt Gingrich and his incompetent Capitol cohorts have nothing to do with the development of QuickDraw, sources have leaked to the Knife details of a new version of QuickDraw that Apple is developing for future Macs. Not surprisingly, this new 3-D version is being called QuickDraw 3D. And once the Mac finally has OS-level support for real-time 3-D modeling (plus TrueType and 32-bit color), we can expect to see at long last some really killer games, and maybe a bit more life in the somewhat sleepy CAD sector of the Mac market.

Authorization devaluation. There's no time like troubled times for a little new marketing thinking. The new thinkers at Apple came up with the concept of marketing System 7 through some new and different channels. The Knife has learned that Apple USA is in the latter stages of closing a deal to put shrink-wrapped System 7 packages on the shelves at Egghead Software. As the story goes, Apple took notice of the massive promotions Egghead did for Microsoft Windows and decided that similar exposure for Apple's primary technological asset would be just the ticket. As far as is known, the current base of authorized Apple dealers was not consulted.

Symantec sightings. In the it-ain't-over-until-the-person-of-weight-sings department, otherwise-credible sources called in with two time-critical items this week. First is news that Lotus 1-2-3 for the Mac's most recent target ship date is Dec. 16. This was followed by reports that Symantec has notified beta-test sites that betas of Q&A Mac will be distributed in a few weeks. Honest.

While Symantec executives are undoubtedly beginning to get a little nervous that by the time Q&A Mac actually ships, the market will have forgotten why it asked in the first place, there's no denying that the company has a clear leadership position in the Mac disk-utility field. Folding the Norton Utilities group in with the rest of the Symantec utilities people to create one big Santa Monica family hasn't gone as smoothly as it might have, however. One result of some of this friction is that the Norton 2.0 feature list is getting shorter all the time. Features already axed include an UnErase button in the Trash window, a "Fix Me" button in the Finder's damaged-disk alert and a direct line to Symantec's SAM anti-virus package.

Company mergers don't have to create problems, particularly if the product lines of the two parties are complementary. Such might very well be the case with Cayman Systems (of Gaterbox fame) and Dayna (of DaynaPORT renown). The Knife has learned that Cayman's intentions toward Dayna are, indeed, honorable. Cayman executives believe that the Dayna products to be acquired in the purchase will nicely fill out the Cayman product line, while Dayna executives are relieved to be courted by such a serious and well-financed suitor. □

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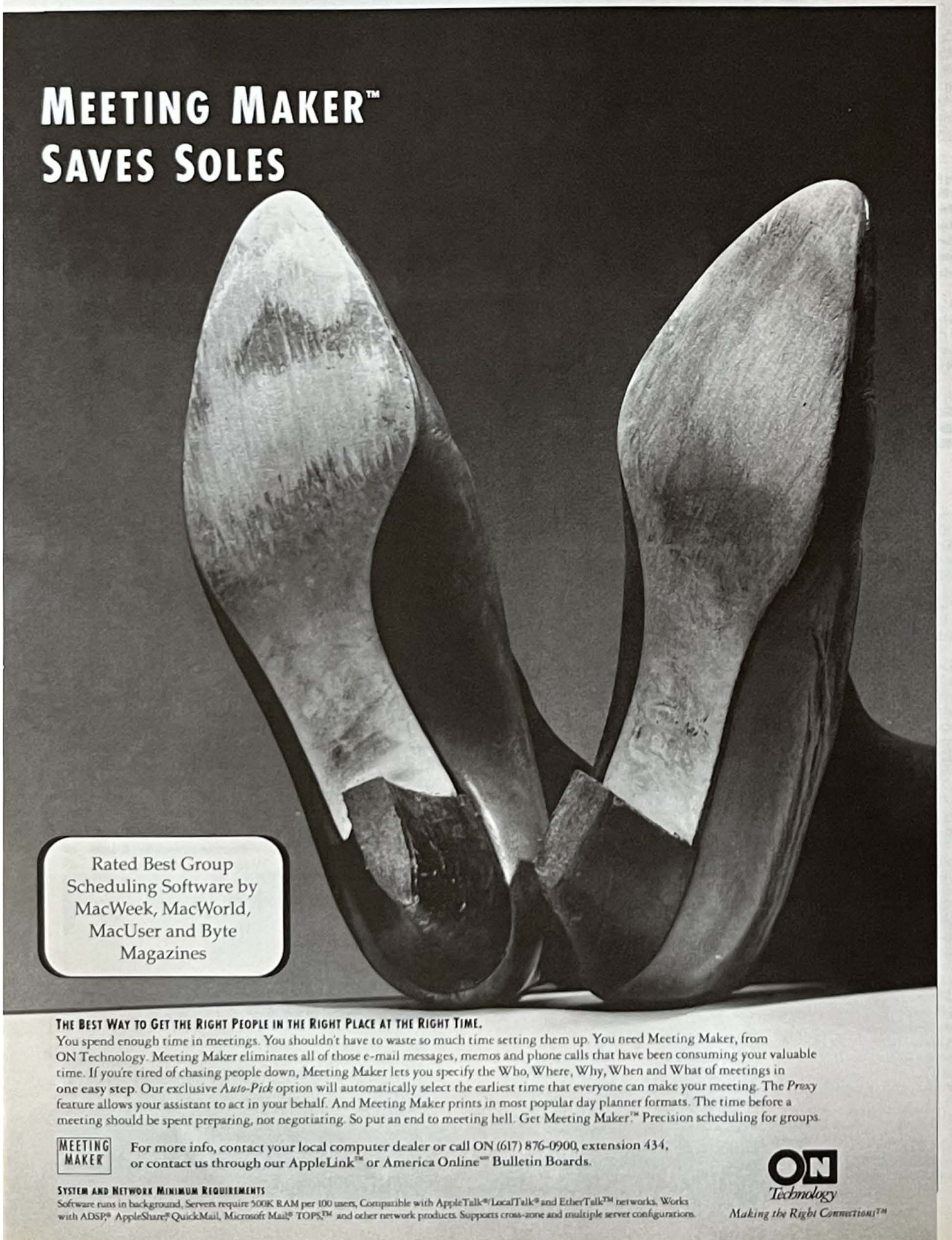
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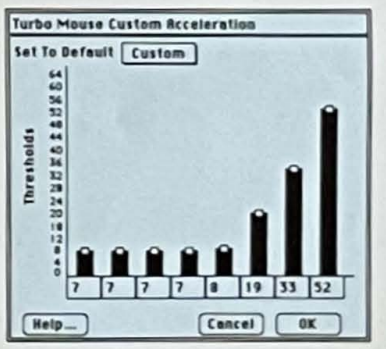

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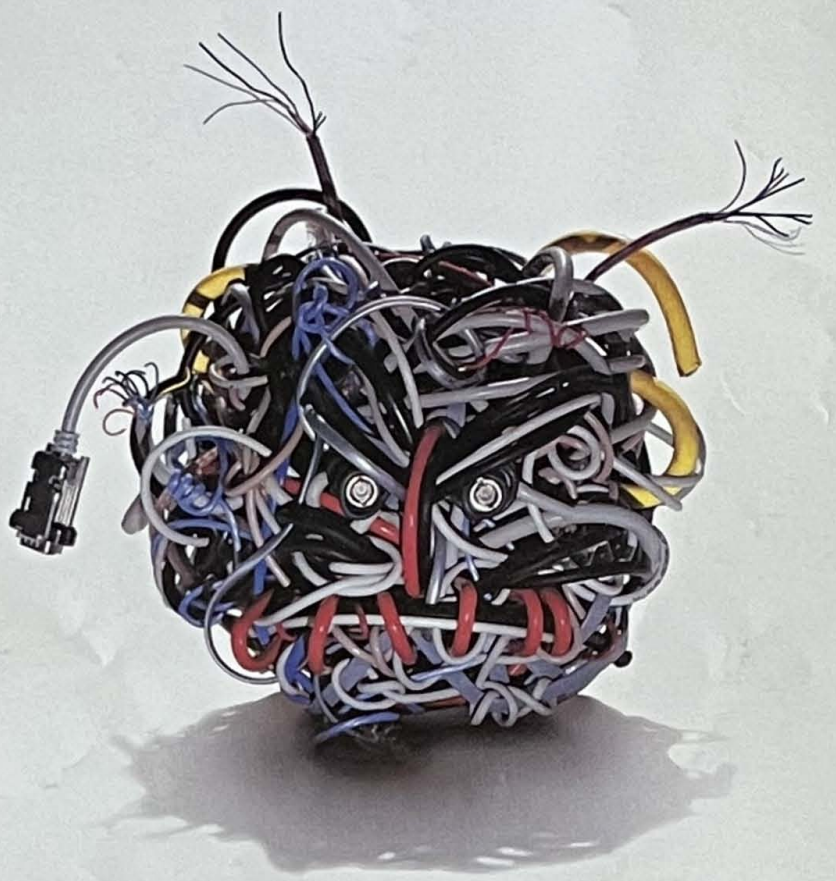
Networks that make sense.
PART 4

If a growing network makes you think of this, Farallon offers two words of advice:



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